One Launched, 39 to Go

Kauai Test Facility Is Blastoff Point for New Test Missiles

It could be a travel poster: waves breaking on a sandy beach . . . the Pacific stretching to the horizon . . . a tropical island paradise.

Now add a missile roaring into the sky, and you've got the scene on a launch day at one of the Labs' lesser-known sites, Kauai Test Facility — KTF for short. Launches occur at irregular intervals here, averaging perhaps three or four times a year, as the needs of Sandia programs dictate.

KTF is on the west side of the island of Kauai, Hawaii, on the grounds of the Navy's Pacific Missile Range Facility, 135 miles northwest of Honolulu. Just north of KTF are Polihale State Park and Barking Sands Beach. Since 1985, KTF has been the site of 35 launches; since 1962, 326 rockets have blasted off from there.

STARS Flight No. 1 got off the ground after two years of political and environmental challenges.

Just two Sandians — Dave Beck and Chuck Nelson of KTF Range Facilities Team 2723-1 — are stationed at KTF permanently, along with 12 contractors, to maintain the facility. But several times a year, the population quadruples for a few weeks as 40 or 50 Sandians assemble to prepare for a launch. Test director for KTF is Al Lopez (2723), who is based at Sandia/New Mexico with the other Sandians who travel to the range when needed.

Launching Strategic Defense

Earlier this year, crews of the Strategic Target System (STARS) program and KTF carried out the first of 40 launches planned for the Strategic Target System (STARS) program during the next 10 years. Photos of the launch and preparations for it appear at right and on page four, thanks to the efforts of Photometrics and Optics Dept. 2756.

Recently announced cutbacks in the Strategic Defense Initiative do not affect plans for STARS, says Eric Schindwolf, Manager of Large Rocket Systems Project Dept. 2725. The SDI Organization — now renamed the Ballistic Missile Defense Office — has told Sandia that the STARS budget for at least FY94 and FY95 should remain at previously planned levels. "Nobody can guarantee that there won't be any changes," says Eric, "but as far as it's possible to tell in the budgeting process, we believe the program is on solid ground."

STARS has already overcome some obstacles. STARS Flight Test Unit No. 1 (FTU-1) got off the ground this February, after more than two years of delays by environmental and political challenges, Eric explains. "A Hawaii state court gave a favorable ruling in January, and we launched a

(Continued on Page Four)

ON THE LAUNCH PAD, but still held by the transporter/erector, the 37,000-pound missile is about to be picked up by its nose and placed on the launch stand.

LAB NEWS

VOL. 45, NO. 11 SANDIA NATIONAL LABORATORIES MAY 28, 1993

Admiral Ellis Presents Awards

Sandians Lauded for Weapons Work

Twenty-eight Sandians and four colleagues from other organizations recently received DOE Recognition of Excellence Awards for their work in weapons development. The awards were presented in Albuquerque by Rear Adm. Gerry Ellis, Deputy Assistant Secretary for Military Applications.

Ellis presented the awards — for contributions to the weapons program during 1991 — at the beginning of a daylong series of briefings on Labs programs.

BILL RIGGAN receives a plaque citing his 1991 contributions to Sandia's work in nuclear weapons technology from Rear Adm. Gerry Ellis. Bill, now retired, was one of 28 Sandians who received awards during a day of briefings recently given for the admiral.

Those cited for their work were:

• Timothy Trucano (1431), Gerald Kerley, Marlin Kipp, Paul Yarrington (all 1432), and Gregory Sjaardema (1562) — for developing and applying computational techniques that demonstrate the nuclear detonation safety of a modern warhead.

• William Riggan (retired) — for significant and sustained contributions to the Joint Test Assembly measurement philosophy and implementation of neutron generator monitor technology.

• Jerry Love (2337) — for consistent innovative engineering and outstanding leadership in the development and qualification of the first radiation hardened timer, first electronic coded switch, a series of ground controllers, and the B61 bomb programmer and interface controller family.

• Emil Kadlec (2663), Mark Kargel (2665), Jerry Elarton, and Robert McKinnie (both AlliedSignal/Kansas City Division) — for developing the B61-common Joint Test Assembly built-in-self-test.

• Theea Wheelis (retired), Bill Talley (9533), Robert Cranfill, Glen Fowler, Harvey Morse, Louis Nogales, Zachary Ortiz (all 9613), Bill Hartman (9614), Richard Wahlberg (9615), Robert Cover, and James Landavazo (both 9617) — for conceiving, developing, and improving the Transportation

(Continued on Page Four)

A Total Surprise

Salary Freeze Announced by DOE May 21

The Department of Energy's announcement last Friday, May 21, that it was freezing salaries of its salaried contract employees was a surprise to everyone at Sandia, according to Executive VP Lee Bray (30). "No one in management had any indication that this was in the works. I was called out of the Sandia Program Council meeting Friday morning to sit in on a conference call from Richard Marquez, Assistant Manager for Management and Administration at the DOE/Albuquerque office. He gave the news to us and to other contractor operators at DOE facilities."

The announcement — that DOE is requiring its management and operating contractors to freeze the salaries of its salaried employees for one year — was made in a news release issued by the Office of the Press Secretary at DOE Headquarters in Washington, D.C. The release said the plan was being announced jointly by President Bill Clinton and Secretary of Energy Hazel O'Leary.

Employees Notified Immediately

Although details were sketchy, Corporate Communications Center Director Pace VanDevender (4700) issued an announcement to all employees several hours later, telefaxing it to managers' offices and putting it on the Labs' electronic mail systems. The announcement said that Sandia management planned to distribute non-base (lump sum)

(Continued on Page Five)

Who Says Sandia Never Gets Good Press? — Page Eight

This & That

Good News about Good News – Sandia's Public Relations Manager Rod Geer (7161) writes in this issue about the news coverage Sandia gets in the Albuquerque papers. It may surprise you to learn that we get lots more "good press" than bad (see page eight). Like all PR folks, Rod and his media relations team are too shy to brag about themselves, so I'll do it for them. They work well with local and national media to get good words printed and aired about the Labs, and they do it with fewer people than most large DOE labs – less than half the staff of some, in fact.

* * *

Blasts from the Past – Lots of Sandians may be interested in looking at a special publication that features oodles of interesting historical photos and words about nuclear weapon tests dating back to 1951 at the Nevada Test Site (NTS). After seeing a copy, I requested a few more from DOE's Nevada Field Office and placed them in our New Mexico and California technical libraries. Sandia/California folks can find it in the Tech Library reference section. Sandia/New Mexico employees should check with the library information desk on 5-8195 or 5-8287 to see if the issue is available. Ask for the April 1993 special issue of *NTS News & Views* – "Nevada Test Site: A historical perspective."

* * *

Buzzword Update – The buzzword I hear most often around the Labs these days is "stakeholder," but I'm not hearing any other fresh ones. If there are "emerging" buzzwords that I'm not hearing, let me know so I can give them equal ridicule time. A few seem to be dying out: empowered, champion (for proponent), socialize (for discuss), and overarching. Good riddance!

* * *

It's a Wrap – Our "What's Happening in Division _____" series concludes this issue with an article by Heinz Schmitt about Component Development and Engineering Support Division 2000 (see page ten). I hope the series has helped Sandians learn more about activities and new programs throughout the Labs. One of the many things I learned is just how hard it is to get some of these busy vice presidents' time. My personal thanks go to all of them and to other Sandians who helped them put these articles together.

* * *

Where Else Could It Be? – Got a call recently from someone at the company that leases us our copy machine. The caller asked if I would mind going to the machine, checking the number on the counter, and giving it to her. When I replied that I didn't know where the counter was located, she said to open the side cover and that the counter was either on the left, in the middle, or on the right.

* * *

Corny Vacation – As most of you read this, I'll be driving to Iowa for a vacation. (How can people say I'm not a fun guy?) In truth, I'm going there with my lovely bride (Renae Perrine, 6200) to meet my new in-laws. I sure hope they have some big summer "doin's" in Iowa like they did in my native Oklahoma, where the annual "Stubble Mulch Jamboree" was among the summer highlights.

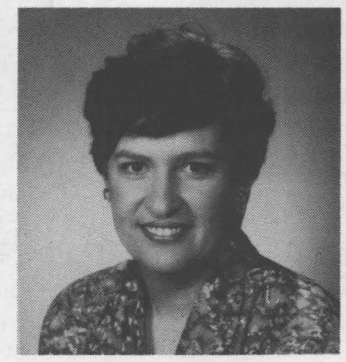
* * *

Cold Comment – Now I know why they call it a salary "freeze." It tends to leave you with a cold feeling. •LP

Pat Falcone to Head Government Relations Office

Sandia/California has created a California Government Relations Office and named Patricia Falcone as its manager. The office will be part of the newly named Technology Transfer and Government Relations Office 8101.

Pat will be responsible for coordinating and facilitating Sandia's emerging relationships with California state, regional, and local government. "The job includes initiating and nurturing a myriad of emerging interactions with California political bodies, including the California congressional delegation, state agencies, county government, the City of Livermore, and a range of California-based interest groups," says Mim John, Director of Exploratory Systems/Program Development Center 8100.



PAT FALCONE

Pat explains her role as "directing our outreach efforts toward offices, agencies, and organizations that offer opportunities for Sandia to provide assistance and expertise." She will work closely with Government Relations Program Office 4504 at Sandia/ New Mexico as well as the technology transfer staff at Sandia/California.

Pat has been at Sandia since 1981. She has a BS in areospace and mechanical sciences from Princeton and an MS and PhD in mechanical engineering from Stanford. She was the first woman at Sandia/California to be named a Distinguished Member of Technical Staff, in 1989. She has worked in energy conversion and strategic defense technology at Sandia.

Pat is a member of the American Association for the Advancement of Science and the American Society of Mechanical Engineers. She was a delegate to the DOE Review of Laboratory Programs for Women in 1992. •

Sandians Invited To Hear Astronaut

Astronaut and former Sandian Ellen Ochoa, who was among the crew on a recent mission of the space shuttle *Discovery*, will be visiting Sandia/California June 1 and speaking in the Bldg. 904 auditorium from 9 to 10:30 a.m. (California time). Her talk will be video-linked live to the Tech Transfer Center (Bldg. 825) at Sandia/New Mexico, 10-11:30 a.m. (New Mexico time). She will show slides and movies from *Discovery*'s flight, which was a mission to study possible ozone depletion. Besides carrying out scientific tasks, Ellen played her flute for other crew members and talked with high school students from orbit.

Congratulations

To Alice (1600) and Dwayne (7435) Hayden, a daughter, Eboni Shanice, March 25.

To Susan Wills and Gregory Newman (6116), a son, Alexander Wells Newman, April 7.

To Cassie and Michael (9531) Christiansen, a son, Scott Michael, May 9.

To Shelly and Rich (1311) Schneider, a daughter, Emily Marie, May 20.

LAB NEWS

Published Fortnightly on Fridays by Employee Communications Department 7162

SANDIA NATIONAL LABORATORIES

An Equal Opportunity Employer

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LIVERMORE, CALIFORNIA 94550
TONOPAH, NEVADA
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Sandia National Laboratories, a prime contractor to the US Department of Energy, is operated by Sandia Corporation, a subsidiary of American Telephone and Telegraph Co.

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How to Find Us

Employee Communications Dept. 7162 is now located in Mobile Offices 172 and 173 (MO172-173), immediately east of our old location in Bldg. 814, but we are now *inside* Tech Area 1. To find us, head north from Bldg. 801, wind around the suite of lovely aluminum temporary buildings (T14-23), and bear left (west). Our entrance is on the west side of MO172. We are told that the tech area fence will eventually be moved inward, putting our facilities back outside the tech area.

In the meantime, uncleared employees, retirees, and others who want to place "unclassifed ads" in the LAB NEWS can mail them to us at Department 7162 or fax them to us at 844-0645. Also, the receptionist in the Bldg. 800 lobby will accept ads there on workdays 8 a.m.-noon and 1-4:30 p.m. We do not accept ads by telephone. Ad rules and deadlines are published at the top of the ad page in each issue.

Call us on 844-7522 or 844-7841 if you can't find us or if you need more information.

Like a CAT Scan, but Finer Detail

X-Ray Technique Reveals Microscopic Development of Materials

A team of scientists from Sandia/California and Lawrence Livermore National Lab has used an X-ray analysis technique to visualize, for the first time, the step-by-step formation of a ceramic composite material in three dimensions and in microscopic detail.

Called X-ray tomographic microscopy (XTM), the technique was developed at LLNL and Sandia during the past four years. It appears to have important potential applications in a variety of fields, ranging from integrated circuits to bone studies, where researchers need to observe the behavior of complex materials as time passes.

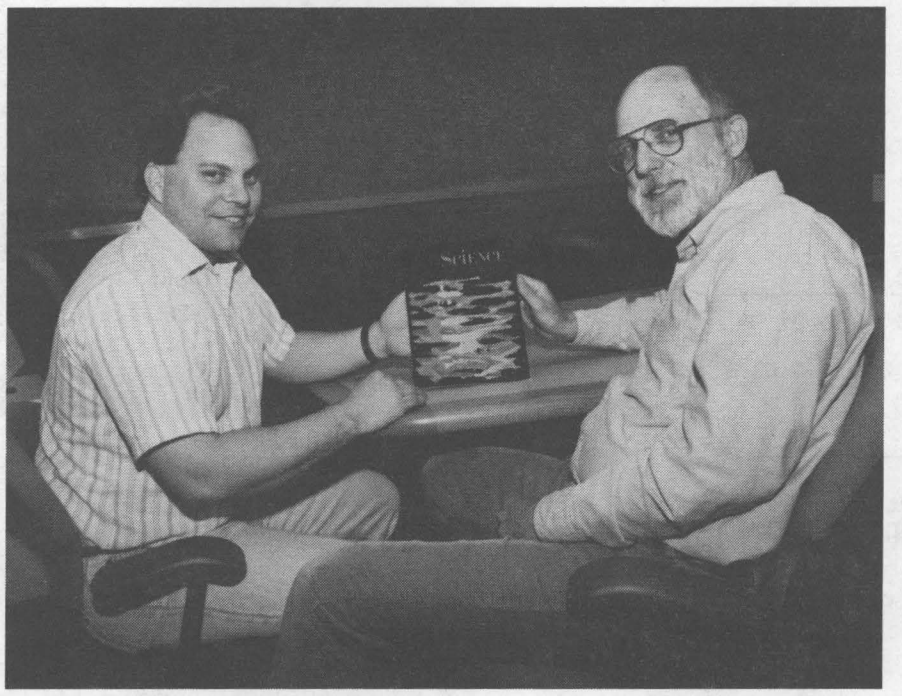
XTM is comparable to, but has better resolution than, medical X-ray techniques such as computer-aided tomography (CAT) in which physicians take X-rays from different angles and then reconstruct them computationally into a three-dimensional picture of an organ.

Team from DOE Labs, University

The work on the ceramic composite was a collaboration between Sandia, LLNL, and the Georgia Institute of Technology. A report was published May 7 as the cover article of the journal *Science*.

The research effort was headed by John Kinney of Lawrence Livermore. The team also included Sandians Tom Breunig and Monte Nichols, both of Materials Synthesis Dept. 8716; Tom Starr, Stewart Stock, and Mark Butts of Georgia Tech; and David Haupt and Allyn Saroyan of Lawrence Livermore.

Monte says, "We would like to be able to use the experiments we perform to improve theoretical models. If we can do this, then we could better guide the development of a process without the need for so many expensive experiments. This instrument is ideally suited for the study of biomaterials — especially teeth and bone. XTM could provide important insights into the understanding of osteoporosis and osteoarthritis."



PROUD OF THE COVER — Tom Breunig (left) and Monte Nichols (both 8716) display the cover of the May 7 *Science* journal, which features an image produced by Tom and John Daniel (8535). It depicts a silicon carbide composite as reconstructed from data produced by high-resolution X-ray tomography.

The researchers observed the formation of an important composite ceramic called silicon carbide/silicon carbide. Members of this family of materials are highly regarded for their strength, toughness, and ability to withstand corrosion and high temperatures. However, their properties are hard to control, and they are expensive to make.

The XTM technique could help in the understanding of osteoporosis and osteoarthritis.

To make the material, silicon carbide fibers about 1/10 the diameter of a human hair are formed and spun into threads, woven into a cloth, and formed to the desired shape. Spaces between threads and in the cloth structure are then filled at high temperature by a gas that deposits crystalline silicon carbide. The samples in the study were processed to various stages of completion in a special reaction vessel at Georgia Tech, then rushed to California to be analyzed at LLNL by the LLNL-Sandia team.

LLNL's John Kinney says, "The ability to observe the step-by-step growth is important because it enables us for the first time to see how the complex architecture of this material determines its growth and consolidation. This technique points toward controlling the microstructure and tailoring materials to get good mechanical properties and reduce cost."

According to Georgia Tech's Tom Starr, "We are able to watch with great detail how the matrix fills the pores between the filaments and how it fills in the larger pores between the yarns — something we could never do before."

The XTM method was developed partly under the sponsorship of the Strategic Defense Initiative Organization (recently renamed and reorganized). It has won two of the prestigious R&D 100 awards and is currently being transferred to US industry via a cooperative research and development agreement with GE Aircraft Engines in Evendale, Ohio.

The technique has already won two of the prestigious R&D100 awards.

It has a resolution of 5 micrometers and can detect an object as small as 1 micrometer (a millionth of a meter) across. (For comparison, a human hair is about 100 micrometers in diameter.) Powerful microscopes looking at prepared slides can resolve smaller objects, but for "seeing" change inside a solid object without cutting it apart, this process offers an important new capability.

Though similar in some respects to the CAT scans used in medical diagnostics, XTM techniques have a millionfold better resolution of volume. They also have the unique ability to collect data for up to 1,000 tomographic slices at a time compared to one at a time for medical and commercial instrumentation.

The system then reassembles the data electronically to form a three-dimensional picture. When used to study ceramic-matrix composites during fabrication, the images show researchers how vapor deposition progresses and allows quantitative measurements that can help researchers understand deposition problems.

"The information obtained has helped confirm a new theoretical model of the vapor deposition process developed by Tom Starr at Georgia Tech," Kinney says. "The model will be refined in light of our experimental findings, and the final results will be used to help improve the cost effectiveness of the vapor deposition methods." •

This article includes information supplied by LLNL's Jeff Garberson.

Hispanic Leadership Committee Lauds Student Essayists

Ten Hispanic students from Livermore-area high schools were honored for their outstanding essays at the Sandia Hispanic Education Outreach Program Awards banquet recently.

Hosted by the Hispanic Leadership Committee at Sandia/California, the event included an address by Len Hiles, Director of Electronic and Mechanical Engineering Center 8400, whose topic was "Somebody Has Always Encouraged Me." Jennifer Robles (8522) was emcee and chaired the banquet committee. Carmella Orham (8716) presented the awards.

Essay winners on the topic "Overcoming Obstacles" were Susana Guevara of East Union High in Manteca, Maria Munoz, also from East Union, and Alejandro Daniel Villa of Liberty Union High in Brentwood. On the topic "Outstanding Achievements," the winners were Lilia Corona of Amador Valley High in Pleasanton, Marco Flores, also from Amador, Karen Nava of East Union, and Jason Ramirez, also of East Union. In the category of "Leadership," the essay winners were Abigail Landeros of Tracy Joint Union High and Damian Martinez of Livermore High. Andrew Torres of Vineyard High in Livermore won in the essay category "Most Improved." •

Congratulations

To Annette Talley and Gary Bailey (5362), a daughter, Sidmelyn Paed Talley-Bailey, March 4.

SANDIA CALIFORNIA NEWS

EARTH DAY EVENT — Sandia/California observed Earth Day last month for the second year, setting up lunchtime exhibits of environmentally conscious activities and commercial displays from area firms on the Combustion Research Facility patio. Handing out bags for literature is Sandia's "Auntie Waste" (Ron Detry, 8200). With "her" are this year's chair, Sally Raubfogel (center), and 1992 chair Alice Johnson-Duarte (both 8642).

(Continued from Page One)

Kauai Launch

little more than a month later."

The next STARS launch is scheduled for August.

Targets for Reentry, Mid-course

FTU-1 is the first of two types of STARS missiles. The STARS I model is intended mainly to provide reentry targets for strategic defense tests. The tests will include both sensor and interceptor experiments with targets that mimic reentry vehicles from intercontinental ballistic missiles. STARS II missiles — the first of which will be launched next year — are for mid-course experiments.

STARS missiles use rocket motors from retired Polaris ballistic missiles for the first two stages.

The STARS missiles use rocket motors from retired Polaris ballistic missiles for the first two stages, refurbished to provide the "brawn" of the missile.

"The third stage is a completely new Sandia design," says Eric. "Its rocket motor was developed specifically for this program, and it carries state-of-the-art electronic systems. This is where the brains of the vehicle are."

FTU-1's flight was mainly a test of the vehicle itself, but it also provided a chance to carry a pair of experiments for Sandia customers. "It was a highly successful demonstration flight," says Eric.

The flight took the missile about 500 miles up and 2,300 miles downrange to the Kwajalein Atoll area.

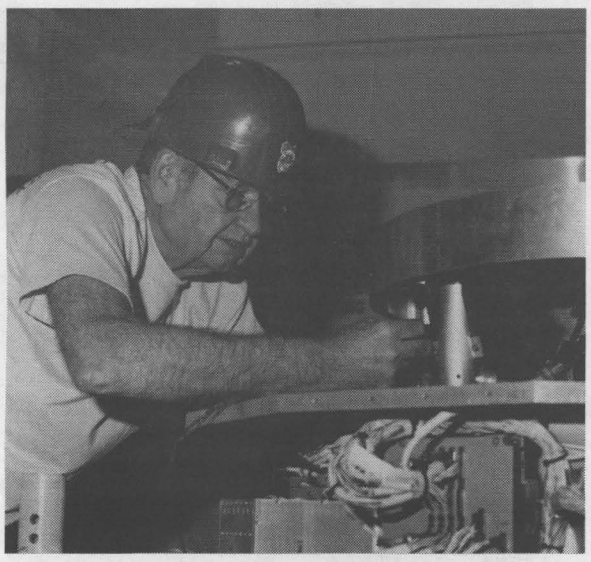
Maybe Other Missions

STARS is a Work-for-Others program that has been under way at Sandia since 1985, with the Army's Space and Strategic Defense Command as its customer. The STARS missiles are versatile enough that Sandia and the Army are also investigating other kinds of missions, such as heavy-payload sounding rocket flights and orbital launches of light satellites. (Sounding rockets carry equipment for upper-atmosphere observations.)

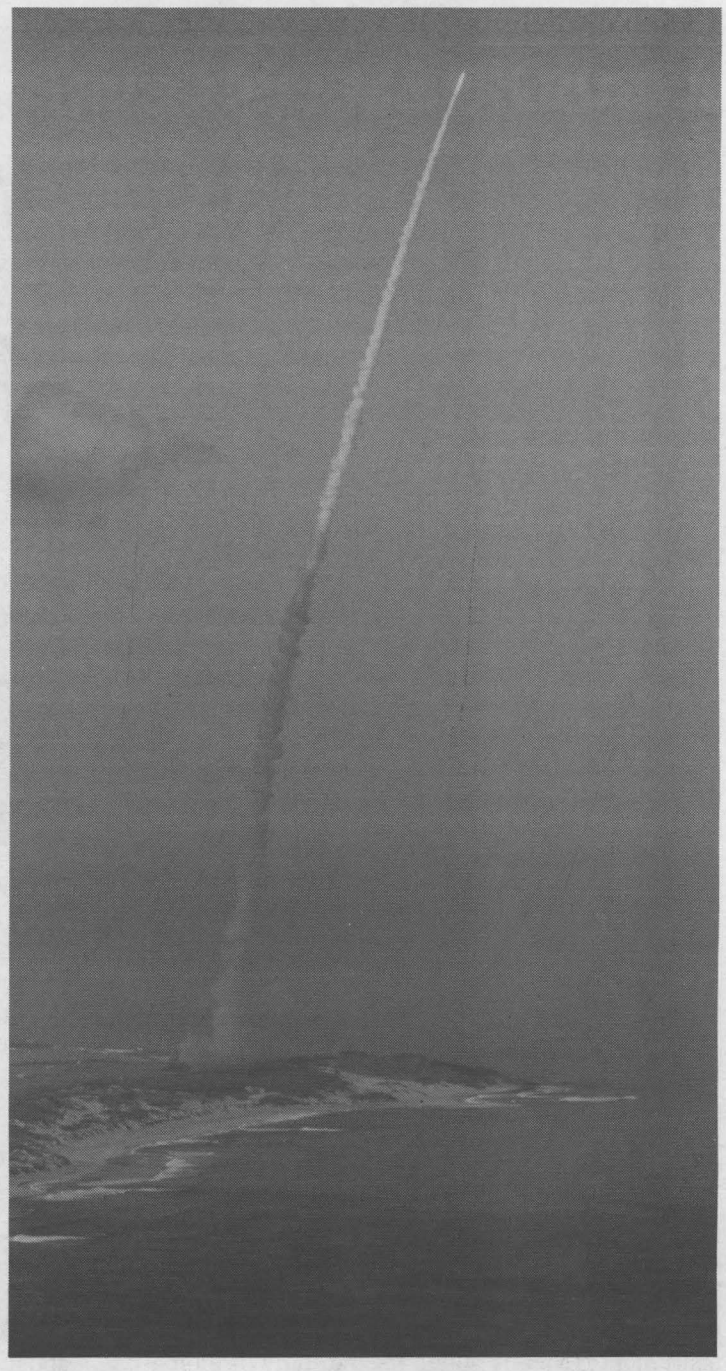
The STARS program directly occupies the equivalent of 65 full-time Sandians, as well as drawing on support people. The groups most directly involved, says Eric, are Range and Small Rocket Systems Dept. 2723, Large Rocket Systems Dept. 2725, Navigation Guidance and Control System Dept. 9132, Flight Dynamics Dept. 1551, Design Service Team 2883-3, and Space Programs Dept. 8115.

"A host of other organizations have provided expertise in testing, applied mechanics, component development, thermal analysis, and fabrication," says Eric. "The payload organizations in Aerospace Systems Development Center 9800 are also closely allied with the STARS team."

•CS



JACK BAHLMAN (2723) works on the payload ejector mechanism.



STREAKING UPWARD, Flight Test Unit No. 1 starts its 500-mile-up, 2,300-mile-downrange trip. Though the main purpose of this flight was to test the missile itself, it also carried two experimental payloads.

ALMOST READY to be moved out to the launch pad — but still about 10 days before launch — Flight Test Unit No. 1 of the Strategic Target System program is on its transporter/erector inside the launch assembly building at Kauai Test Facility.

SETTING UP for tests of the third-stage attitude-control system are Jerry Winker and Margaret Weber (both 2725).

(Continued from Page One)

Weapons Awards

Safeguards system used to move Defense Program nuclear materials, radioactive components, and complete weapons systems between DOE and Department of Defense locations.

• Rudy Johnson (retired), Al Reichmuth (8445), Alan Church, and Merle Ralston (both EG&G/Rocky Flats Plant) — for developing processes to eliminate chlorinated solvents from the manufacture of gas transfer components.

• Irene Dubicka (5501), Charles Christensen (5513), Jerry Huntting, Donald Starkey (both 5363), Rex Eastin (5371), and Debra Post (8114) — for working closely with DOE and Department of Defense customers (as members of the B83 user satisfaction team) to make and implement numerous recommendations, significantly improve customer services, and establish shorter and more accurate lines of communication. •

Take Note

A benefit dinner for La Mesa Community Day Care and Pre-School (a United Way agency) will be held Wednesday, June 9, 5:30-8 p.m. at La Mesa Elementary School (7500 Copper NE). Proceeds will be divided between the school and the day care center. These organizations serve the La Mesa neighborhood. Tickets are $3.50 in advance, $4 at the door. Contact Delores Cano on 262-1581 or Susan Smith on 268-8043.

(Continued from Page One)

Salary Freeze

compensation as previously scheduled on Sept. 30 this year. This part of the Sandia compensation package recognizes FY93 contributions and is paid from FY93 funds. The base increases that normally go into effect on Oct. 1 are not being allowed. For the past several years, the Labs' total compensation package for most employees has included both base and non-base compensation.

The DOE news release, printed in its entirety at right, says the one-year freeze is expected to save the department $1.55 billion over the next five years. An attached "fact sheet" explained that $220 million will be saved in the first year [FY94] and that the savings in the "out years" result from the accumulated savings from not increasing salaries in FY94.

In an interview Friday afternoon, Lee Bray told the LAB NEWS that because the announcement was not expected, Sandia management simply did not know exactly how the DOE plan will affect some of Sandia's plans. For example, the fact sheet says that "no union employees will be impacted by this initiative" and that the freeze "does not apply to promotion increases and exceptions may be made for special circumstances."

This latter part is being interpreted by Sandia as allowing the Labs' promotion-increase policy to continue — for example, increases for promotions from staff to management, from member of technical staff (MTS) to senior member of technical staff (SMTS), from MLS-3 to MLS-4, and from MA-II to MA-III. Some promotions carry base increases and some carry non-base increases, depending on the particular employee category.

Non-base Will Be Re-examined

The DOE announcement came after Sandia was well into the performance review process to determine non-base compensation to be distributed to employees Sept. 30 and to set base salaries for FY94. Although the non-base compensation and base salary levels had only been approved tentatively by the Sandia Board of Directors, most department managers had already established these amounts for their employees. However, Ed Cassidy, Manager of Compensation Dept. 7550, says managers will get an opportunity to re-examine the non-base amounts and make adjustments in light of the fact that base increases are not being allowed.

Regarding non-base compensation at the end of September *1994*, "Our position is that we should be allowed to do this since it would not increase our total compensation costs over this fiscal year," says Ed. "If we distribute the same amount of non-base compensation Labs-wide next year as we do this year, we will not raise the total compensation at all but simply match the FY93 amount, so we're assuming that DOE will allow this."

Wage rates for union employees at Sandia are uncertain. Compensation packages are negotiated and pay scales established as part of the bargaining and contract-making processes between the bargaining units and Sandia. Ralph Bonner, Director of Human Resources Center 7500, notes that all existing union contracts at Sandia expire by the end of this November. Pay scales in existing contracts will of course continue to be honored. New pay scales will be the subject of contract negotiations as usual.

The freeze does not apply to DOE employees, just to salaried DOE contractor employees. However, federal legislation has been introduced that would freeze the FY94 salaries of most federal employees. •LP

(Editor's Note: DOE's announcement that it was requiring a salary freeze at Sandia and at other contractor facilities came at a bad time for the LAB NEWS — on Friday, May 21, our copy deadline for this issue. The information in this story was current and the "best available" as of Tuesday, May 25, but DOE may have provided more guidance since then, and more details may have been announced in Sandia meetings or through other internal communications. The LAB NEWS will report any new developments later.)

The DOE News Release

Editor's Note: Here is the complete text of the May 21 DOE news release announcing the one-year salary freeze.

More than $1.5 billion will be saved from the Energy Department's budget over the next five years to be used for technology transfer, energy efficiency programs, and deficit reduction under a plan announced today [May 21] by President Bill Clinton and Secretary of Energy Hazel O'Leary.

Clinton and O'Leary announced that the Department of Energy will enact a one-year salary freeze for salaried contract employees, who make up 82 percent of the Department of Energy's workforce. Freezing salaries for one year will result in a savings over the next five years of $1.55 billion.

Over the five-year period, Clinton and O'Leary plan to dedicate $1 billion of the savings to deficit reduction, $300 million to the Energy Department's defense labs to support technology transfer, and $250 million to energy efficiency programs.

The plan was unveiled today [May 21] during a meeting of the President's Cabinet at the White House.

Secretary O'Leary said the measure is the first step in a comprehensive review of how the Department can most effectively and efficiently use its contract employees and develop contract agreements that require accountability, responsibility and liability with a firm performance measurement system.

Classified Symposium Explores Future of US Stockpile

Sandia's Defense Programs (DP) sector will hold a classified nuclear weapons symposium June 14-18 at Sandia/New Mexico titled "Moving Into the Future: A Proactive Approach to Stockpile Stewardship." It is the first time Sandia's nuclear weapon design community has gathered under one roof to discuss a broad range of weapon-related issues, says conference coordinator Joe Abbin (5803).

The goal of the week-long symposium is to provide a forum where managers and staff members can explore "cradle to grave" stewardship of the nation's nuclear stockpile. "The conference allows us to step back and look at the big picture," says Joe. "It's also a good chance for people in different weapons organizations to meet each other, discuss issues, and explore options for the US stockpile."

Present, Future Stockpile Issues

The conference kicks off June 14 and 15 with a two-day introductory/refresher session on nuclear weapons topics. Twelve separate educational modules provide an introduction to weapons technology and development, requirements, the stockpile, weapon safety, weapon use control, weapon security, weapon assessment, stockpile stewardship, weapon evaluation, emergency preparedness, transportation security and safeguards, and the nuclear weapons production complex.

On June 16 and 17, several Sandians will provide an up-to-date internal view of the US stockpile, including a guest panel comprising Sandia weapons customers, who will explore "DoD User Feedback on the Current Stockpile." The session will conclude with a talk titled "A Public Perspective on Nuclear Weapon Surety" by Leon Sloss, a national policy consultant with the Washington Institute and former acting director of the Arms Control and Disarmament Agency.

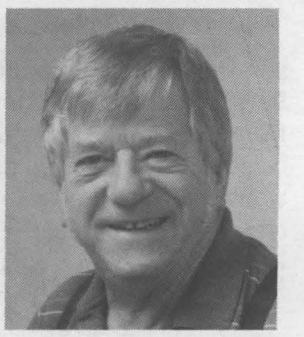
Also on June 17, DOE and DoD guest speakers will discuss the future of Defense Programs, evolving trends and opportunities, and constraints that may influence stockpile improvements. Guests include Rear Admiral Gerry Ellis (DOE Deputy Assistant Secretary for Military Applications), John Birely (Assistant to the Secretary of Defense for Atomic Energy), Maj. Gen. Kenneth Hagemann (Director, Defense Nuclear Agency), and Rear Admiral John Mitchell (Director, Strategic Systems Programs, US Navy).

On June 18, Roger Hagengruber, VP of Defense Programs Div. 5000, will wrap up the symposium by discussing Defense Programs' organization, mission, vision, and strategic thrusts. The conference will conclude with a panel discussion titled "Sandia Perspective on Stockpile Stewardship." Division 5000 directors will participate in the panel.

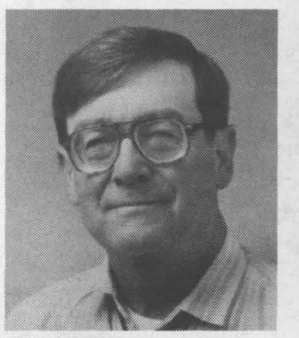
General sessions of the conference (June 16-18) will be video-linked to Sandia/California (Bldg. 912, Rm. 121) and videotaped for the benefit of Sandians who cannot attend. Space is limited; for tickets or information, contact Teena Morris (5800) on 844-1252 (fax 844-7431). •JG

Recent Retirees

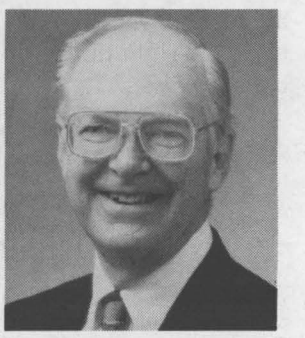
Don Hinman
7211 40



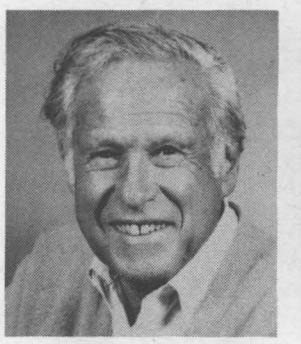
John Biesterveld
9612 36



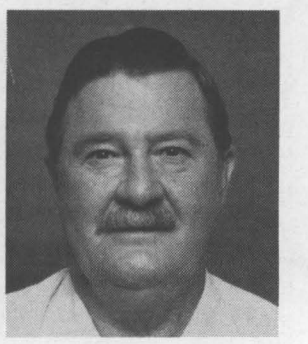
Bill Roady
2561 28



Harold Bennett
9614 34



Irving Auerbach
1553 36



A. J. Brouillard
9331 38

Buried Bolts Bothersome

Big 'Oops!' Teaches Labs a Lesson: Be Wary of Waste

One cold morning in September, workers watched as wet cement from a mixing truck sloshed into a construction trench inside Tech Area 1. When the trench was full, they left the gray stuff to harden overnight. They would return to pave the street in a few days.

Crew members leaving that afternoon were unaware of the mistake that would later give Sandia a regulatory headache. Underneath all that hardening cement were 130,000 counterfeit high-strength bolts, some plated with cadmium, a hazardous material.

Several weeks earlier, construction team leader Gerry Lipka (7013) had responded to an e-mail request for an open construction trench at the Labs

"Anytime anyone talks about dealing with or disposing of any unwanted material, it's considered waste."

in which to bury the counterfeit bolts. The bolts, recovered from Labs facilities by a Sandia Quality Action Team (QAT), were deemed unsafe because they did not meet specified tensile requirements for high-strength applications.

Because the counterfeit bolt team was concerned that the faulty bolts might be found in a landfill and used by the public for other high-strength applications, the team decided not to dispose of them traditionally. Encapsulating them cheaply and permanently inside cement at an existing construction site seemed like the best way to keep them out of circulation.

"We were told by DOE/Albuquerque to get the bolts out of circulation and keep them out of circulation," says David Bray (4301), who led the Bolt QAT. "We followed the example of other DOE facilities that had 'immobilized' counterfeit parts before."

Everyone Tried To Be the 'Good Guy'

Unfortunately, communication between members of the Bolt QAT and the construction team failed. Instead of being encapsulated inside cement, the bolts were placed at the bottom of the trench and then covered with dirt and cement. (Because the bolts were later categorized as hazardous, however, either method probably would have resulted in a violation.)

"Everyone involved was trying to be the good guy," says Gerry. "There were some counterfeit bolts that couldn't be disposed of in a landfill, and all anyone wanted to do was correct the problem, to do the right thing. Nobody ever thought of the bolts as waste."

Right or wrong, says Gerry, in the general construction business, certain 'excess' materials may get left in open trenches for burial: lumber, nails, fasteners, tie wraps from bundles of materials, lunch remains, plastic electrical connectors, spent welding rods, and paint cans.

BOLTS AND DIRT exhumed from a construction trench inside Tech Area 1 are guided into 55-gal. drums by a member of a contract construction crew. Because some of the counterfeit bolts were plated with cadmium, the bolts were sifted from the dirt and sent to a hazardous waste disposal facility in Louisiana.

"The letter of the law says you can't leave anything in a trench that's not part of the construction work," he says. "If you bury anything that's not being used for its intended purpose, that's unlawful disposal."

A few hours after the bolts were buried, Barbara Botsford, now of Chemical Waste Management Dept. 7042 and then a member of the Bolt QAT, was notified of the burial. She realized the error, and by Nov. 7 the construction crew had exhumed all 130,000 bolts. Sandia notified the New Mexico Environment Department (NMED) on Dec. 17, the day after a laboratory analysis confirmed that some of the bolts were cadmium-plated.

To exhume the bolts, workers dug a trench beside the concrete cap and raked the bolts out from underneath. They used magnets and a metal detector to find them all. Next they sifted away the dirt and placed the bolts in 11 35-gal. drums, which were shipped to a hazardous waste disposal facility in Louisiana.

Penalty Includes 'Community Service'

"I think it's important to note that when we heard we had a problem, the crew got the bolts out quickly without disrupting the schedule for the new Sandia telephone switch, which saved the Labs money," says Gerry. "The crew worked extra hard to correct the problem."

On May 6, DOE, Sandia, and NMED representatives met and agreed that Sandia should share its experience as a lesson to other members of the community. As part of the agreement, Sandia is producing a videotape to warn public organizations of the necessity for proper employee training in hazardous waste recognition and disposal, as well as the potential safety and liability problems associated with counterfeit bolts.

'Black Eye' Teaches Lesson

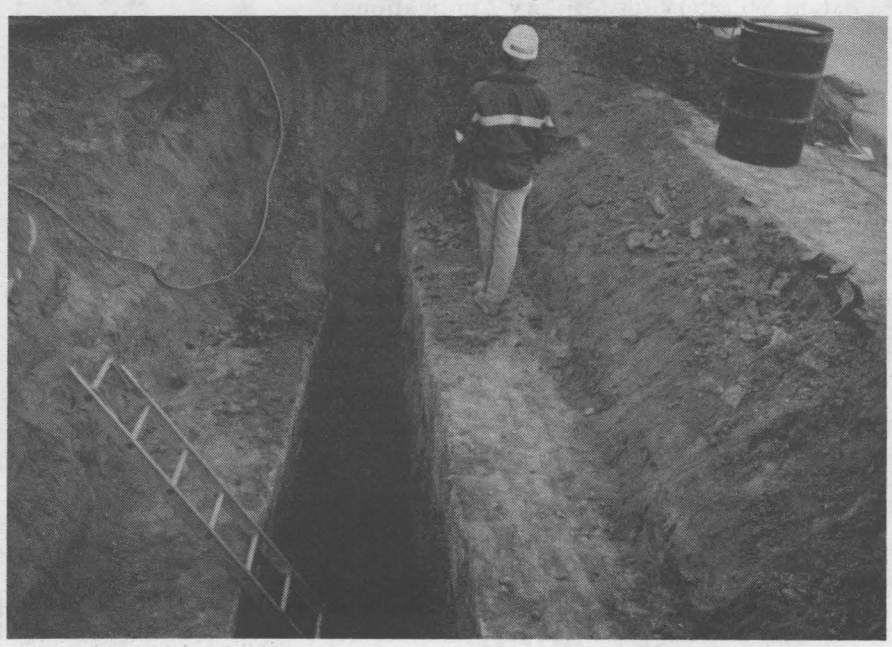
The incident report showed several causes for the Sept. 25 "Oops!" Incomplete planning and a "lack of ES&H representation on the Process Management Team for Suspect Parts" were the two biggest reasons indicated. "Once the decision was made to dispose of the bolts (hence, making them 'waste')," says the report, "they should have been considered as 'solid waste' and possibly as 'hazardous waste.' "

Gerry says the experience taught him an important lesson that he wants to pass on to other Sandians. "Anytime anyone talks about dealing with or disposing of any unwanted material, it's considered waste," he says. "That means an ES&H person needs to get involved."

"The environment wasn't hurt and we learned a valuable lesson — that's the upside," says David. "The downside is we gave ourselves a black eye. I hope other Sandians can learn this lesson the easy way."

He believes all Sandians need waste management training, not only to do their jobs better but to protect the environment as well, both at work and at home. "My organization is now doing it; I suggest others do the same."

"In their enthusiasm to do the right thing," says acting VP Arlyn Blackwell (7000), "the people involved in this incident reached a solution that violated an environmental regulation. We're publishing our mistake so others might learn from it." •JG



QUICK COMPLIANCE — To remove the bolts, a trench had to be dug beside the original burial site and the bolts raked out from underneath. Magnets and a metal detector were used to make sure they all were removed.

Welcome

Albuquerque — Sue Brandt-Johnson (154), Beverly Josephson (7033), Margaret Showalter (6211). *Other New Mexico* — Denise Maestas-Blemel (154).

Elsewhere: *California* — Stewart Cameron (1128); *Colorado* — Brian Dwyer (6621); *Minnesota* — Charles Sullivan (1322).

Labs Gets Gigged on Recent State Audit

Anyone Can Run Afoul of Waste Requirements, Unless . . .

Common sense tells us not to dump dimethyls down the drain or toss transuranics in the trash. But experience shows us that when it comes to waste handling, it's often the little things that can catch us off guard.

Helping make that point is a report released in October by the New Mexico Environment Department (NMED). The report contains results of a surprise audit that NMED inspectors conducted at Sandia in August last year, explains Sherrie Langlois of Chemical Waste Management Dept. 7042.

Many of the 18 waste management violations and several areas of concern identified in the report were "paperwork" types of errors, and the violations did not cause any damage to the environment, says Sherrie. Most of the problems were corrected within 10 days of the report.

Dept. 7042 expects a similar unannounced audit by NMED this summer, however, and repeat violations will surely bring stiffer penalties, she says.

Sherrie points out that during any inspection, even a minor departure from correct procedures can create a violation. Diligent attention to a few common mistakes made during the last audit can help Sandians pass future audits with flair.

Open Containers

Technicians in a Sandia lab were cleaning circuit boards with solvent-dipped swabs. During the day, they accumulated used swabs in open, unmarked containers near their work stations and then dumped them into approved, closed containers at the end of the day. Wrong, says NMED.

As a rule of thumb, always deposit hazardous wastes in approved containers *as soon as they are created and are no longer in use*. Small containers are available for such purposes. Except for adding or removing waste, these containers should remain closed.

Improper Labeling

An OSHA-approved can for flammable materials, with a small opening on top by design, was sitting in one corner of a laboratory. The can, which hadn't been used recently, was incorrectly labeled "caustic waste" (corrosive waste), and NMED inspectors found two crumpled paper towels in the can. Although the towels were reportedly not contaminated, Sandia was cited for having hazardous wastes in an open container.

In another case, employees in a photo lab were allowing used developing solution from a developing machine to empty into an unmarked container before removing and labeling the container as hazardous waste. Although the lab employees were correctly labeling the full containers after accumulation, Sandia was cited for having unlabeled waste containers.

Auditors found other instances of incorrectly labeled or unlabeled waste containers. All hazardous waste containers must be labeled "hazardous waste" at the *start of accumulation*, says Sherrie, and all pertinent information must be noted on the label, including the accumulation start date, not just the date the container is full.

Accumulation Limits

In the past, individual laboratories were allowed to store up to 55 gallons of accumulation from each waste stream generated in that area. NMED will no longer accept this interpretation of the regulations, says Sherrie.

A recent revision to Sandia's ES&H Manual limits the total volume of hazardous waste that can be stored at any designated "satellite accumulation area." Now, labs, rooms, and areas where waste is generated may store *no more than 55 total gallons of hazardous waste at any time*. Sandia/California has also adopted this more stringent New Mexico interpretation.

Designated "accumulation areas" can store an unlimited quantity of waste for 60 days, but only under the guidance of Dept. 7042. (Sandia/California accumulation areas have a 90-day limit, under the guidance of Environmental Protection Dept. 8642.) However, accumulation areas carry extra reporting, inspection, and training requirements.

In addition, once a satellite accumulation area has reached its 55-gallon limit, the responsible line organization has three calendar days to have the waste removed to an approved storage site. "That means if you reach the limit on Friday afternoon, it must be removed by Monday afternoon," Sherrie says.

To ensure that labs don't exceed this limit, line organizations should keep a close eye on the waste volume and submit Chemical Waste Disposal Requests (CWDRs) well ahead of time, allowing at least 10 days for the waste to be picked up by Dept. 7042. If an upcoming experiment or project is expected to create an unusually high waste output, New Mexico Sandians can call Dept. 7042 on 844-3470 in advance so special arrangements can be made. (For special procedures at Sandia/California, see "Waste Worries? California Sandians Call 294-2145.")

Sherrie emphasizes that it's the responsibility of the line organization to make sure waste is removed from satellite accumulation areas on time and that CWDRs arrive at Dept. 7042 in the mail on time. Employees can call to verify that a CWDR has been received.

"Common sense isn't always enough in the case of hazardous waste regulations," Sherrie says. "Always check on the proper disposal method if you are at all unsure." (See "Some Common Lab and Office 'No-throws'.")

Answers to Sandians' questions regarding the proper handling of hazardous wastes can be found in Chapter 10 of Sandia's ES&H Manual. Employees who have questions about waste handling requirements can call anyone in Chemical Waste Management Dept. 7042. (In California, call Environmental Protection Dept. 8642 on 294-2145.) •JG

Waste Worries? California Sandians Call 294-2145

California employees should take note of the differences in procedure between Sandia/California and Sandia/New Mexico, says Kim Shepodd of Environmental Protection Dept. 8642. In California, employees do not need to submit Chemical Waste Disposal Request forms to have waste removed. Instead, California Sandians should fill out an "SNL Hazardous Waste ID Tag" and then call Dept. 8642 on 294-2145. Employees having questions about the proper handling or disposal of waste should also call Dept. 8642.

Attention: New Mail Stop For Albuquerque CWDRs

When mailing in Chemical Waste Disposal Requests (CWDRs) at Sandia/New Mexico, please be sure to address the envelope to the new mail stop: "HWMF" (for Hazardous Waste Management Facility). CWDRs and other disposal requests addressed to "Dept. 7042" will first be delivered to the department's new off-site administrative offices in the BDM building, which slows down requests. You may also simply send the pre-addressed CWDRs in Sandia's mail system without an envelope.

Some Common Lab and Office 'No-throws'

When deciding what's hazardous waste and what's not, common sense isn't always enough, says Sherrie Langlois, project manager for solid waste in Chemical Waste Management Dept. 7042.

For instance, during a recent audit, a lab worker threw away a swab used to wipe up ordinary isopropyl alcohol. Even though the alcohol would have evaporated in a few minutes, an auditor considered the swab a hazardous waste that should have been placed in a closed, approved container.

Here are some other common items that should be treated as *hazardous waste* after use:

Lithium, silver, mercury, thermal, and lead-acid batteries
Solder containing lead
Printed circuit boards
Liquid chemicals

In addition, aerosol cans are the subject of some confusion, says Sherrie. Empty aerosol cans are considered non-hazardous and can be thrown away in regular trash. But a can is considered *hazardous if* (1) you shake it and hear liquid swishing around inside, or (2) you push the button and hear a hissing sound, meaning some propellant is left in the can. If either of the above is true, the can is not considered empty and should be treated as hazardous waste.

Empty laser printer, copier, and fax toner cartridges are *non-hazardous* but should be recycled if possible. Submit a DTR (Delivery to Reapplication) form to have the materials picked up. (In California, complete a Toner Cartridge Disposal Card and call 294-4230.)

In addition, Dept. 7042 often gets questions from conscientious employees about other common items that are not considered hazardous waste. Items which can be thrown away in regular trash include typewriter ribbons, regular household batteries (alkaline and carbon zinc only), used Polaroid film, and mylar.

California employees should take note of two important differences in the regulations. In California, all batteries, including household batteries, are considered hazardous. So are aerosol cans.

Custodial Services will be issuing a Sanitary Waste Generators' Guide by Aug. 31, 1993. The guide gives more clear direction about what waste is acceptable in our trash cans and dumpsters.

Retiree Deaths

Patricio Lerma (73) ..... April 4
Clarence Lane (75) ..... April 7
James Dickie (81) ..... April 9
Lawrence Metoyer (85) ..... April 9
Robert Durand (66) ..... April 12
Michael Kuliasha (75) ..... April 20
Conrad Roeschke (78) ..... April 21
Gene Jones (65) ..... April 26

Sympathy

To Tom Lehman (5115) on the death of his father in Windber, Pa., May 1.

There's Good News and Bad News, but . . .

Most Local Newspaper Stories about Sandia Are 'Good News'

By Rod Geer
Manager of Public Relations Dept. 7161

"All we ever get is bad press."

You've heard it said around the Labs. You may have even uttered it yourself.

But a close examination of the hundreds of stories printed in Albuquerque's daily newspapers, the *Tribune* and the *Journal*, since the beginning of 1991 that feature or mention Sandia reveals something very different.

Only about 18 percent of those stories, which are read throughout the state and are often picked up by The Associated Press and distributed nationally, could be classified as negative press for the Labs. In fact, 55 percent of the stories are positive, showing the Labs, its employees, and its programs in a good light. The remaining 27 percent are considered neutral.

Fifty-five percent of the stories are positive, showing the Labs, its employees, and its programs in a good light.

(A just-completed statewide telephone survey of 800 households by the University of New Mexico generally supports our analysis. Conducted by UNM's Institute of Public Policy and sponsored by Sandia's ES&H Program External Interface Office 7026, the survey shows that 72 percent of the respondents believe media coverage of the Labs ranges from neutral to very positive, and 24 percent say it is somewhat to very negative. Four percent had no opinion.)

We did our analysis of the Albuquerque dailies' coverage to benchmark our operations against "PR shops" for other large R&D-type organizations and to establish metrics against which we can measure future performance. A similar analysis of Sandia coverage in Livermore, Calif., area newspapers is under way, and the LAB NEWS will report the results.

Like It or Not, Sandia Is News

Our analysis of the Albuquerque papers classified stories as positive, negative, or neutral. It also segregated articles by topic — science/engineering, policy/administrative, environmental issue, and other (see "Analyzing the Coverage").

"We need to remember that our billion-dollar-plus budget is funded by the US taxpayers," says Ace Etheridge (7161), media relations team leader, "and — like it or not — Sandia is news.

"Anything we do — whether it's accidentally spilling water with slightly elevated tritium levels, inventing the laminar air flow clean room, or pioneering fusion energy devices — is fair game for the media," he says.

Charges about alleged employee mistreatment, citizen allegations about disregard for the environment, or allegations that Sandia can't be trusted clearly fit into the negative category, explains Ace, who has worked as a reporter, business and sports editor, and assistant city editor at four papers in Texas and New Mexico.

However, articles suggesting budget and staffing cuts generally received neutral ratings, just as stories that report on increased funding or, for instance, the requirement for Sandia to pay New Mexico state gross receipts tax.

Headlines Create Impressions

But a volatile or emotional headline that, by itself, immediately creates a positive or negative impression — like "Future of New Mexico's Labs in Jeopardy" — tipped some otherwise neutral stories into a different category.

Most science/engineering-related stories were positive, as was most coverage concerning technology transfer. Other positive coverage included articles about Sandia's interactions with local vendors, our impact on the state's economy, our contributions to Desert Storm, and our achievements in emerging initiatives such as biomedical engineering (see "Headlines: Good, Bad, Neutral").

There was an encouraging collection of positive coverage in the environmental-issue area. Examples include news about our environmentally conscious soldering technique, a cooperative research and development agreement concerning a sensing system for mapping and inspecting waste environments such as underground storage tanks, and a research project to develop ways to suck dangerous chemicals out of an old landfill before they pollute groundwater.

"The [reporters] aren't being paid by Sandia or the federal government, and our Constitution says they can write what they want."

However, most environmental-issue stories have been negative. Any piece dealing with water issues — the 50,000 gallons of liquid waste, water that overflowed storage tanks, and the like — got automatic negatives.

Editorials and letters to the editor fell into all three categories; however, editorial-page cartoons tended to be negative.

Neutral Calls Difficult

In some ways, calling a story neutral was more difficult than giving it a plus or a minus, and certainly there was some judgment involved. But generally speaking, articles we classified as neutral are ones that don't tend to influence a reader's opinion about the Labs or its programs. They provide basic information.

Ace says in his 26 years as a newspaperman and as a PR professional for a couple of major corporations, he has learned that reaction to publicity is a subjective matter.

"Some people go by the old adage of not caring what you say about me as long as you spell my name right, while others stay awake nights worrying about an article that has 19 glowingly positive paragraphs and one slightly negative statement," he says.

"But it's important to keep things in perspective when dealing with the media," Ace continues. "For example, the people holding the pencils and tape recorders and asking the questions aren't being paid by Sandia or the federal government, and our Constitution says they can write what they want.

"However, our experience — and our survey — clearly show that they actually do write more nice things about us than most folks around Sandia realize." •

Analyzing the Coverage

Since the beginning of 1991, the *Albuquerque Journal* and the *Albuquerque Tribune* have printed about 400 articles in which Sandia mentions are key to the story. Here's a breakdown of those pieces.

Good Press-Bad Press Index (percent of stories)

Positive	55
Negative	18
Neutral	27

Subject-Matter Index (percent of stories)

Science/Engineering	32
Policy/Administrative	22
Environmental Issues	20
Other	21*
Incidental Mention	5

*This category includes articles on topics such as employee benefits, computer viruses, Sandia's economic impact on the city and state, educational and community outreach, management contractor matters, etc.

Headlines: Good, Bad, Neutral

A sampling of headlines from stories that received a positive classification in the recent analysis of Albuquerque daily newspaper coverage of the Labs:

"New Technology May Help Curb Drunken Driving," "Sandia Labs Cited As Business-Booster," "Sandia Labs May Help Russia," "Sandia Listens to Public Concerns," "GM, Sandia Will Improve Cars Together," "Sandia Finding May Boost Superchemicals," "Sandia Labs Signs Pact to Aid High-Tech Industries," "Agile Firms Will Lead the Future," and "Safe Air Travel Is New Center's High-Tech Goal."

Heads typical of negative stories: "Radiation Detected In Diapers," "Sandia Fixing 353 Goofs for $200 Million," "Solvents Possibly Harmed Employees," "Reactor Coolant Overflows Into Drainage Ditch," "Sandia Fears 5 Percent Budget Cut Coming," and "Lab Fertilizes Mistrust."

Some headlines from neutral stories: "Bids To Manage Sandia Due Today," "City, DOE Reach Pact on Dumping Waste Water," "New Mexico Labs Likely to Get Millions," and "Sandia Nuclear Rocket Has Uncertain Future."

Recent Patents To Sandians

Gregory Frye (1315), Jeffrey Brinker (1846), Thomas Bein (Purdue), and Kelly Brown (University of New Mexico): Molecular Sieve Sensors for Selective Detection at the Nanogram Level.

Gerald Reynolds (2251), Terry Steinfort (9311), Harry Hardee (ret.), and Charles Carrigan (former Sandian): Thermopile Array Geo-Heat-Flow Sensor.

Earnings Factors March 1993

Long-Term Savings Plan for Management Employees (LTSPME)	**Earnings Factors**
AT&T Shares	1.0215
Government Obligations	1.0032
Equity Portfolio	1.0234
Guaranteed Interest Fund	1.0063
South Africa Restricted Fund	1.0201

Long-Term Savings and Security Plan (LTSSP)	
AT&T Shares	1.0215
Guaranteed Interest Fund	1.0064
South Africa Restricted Fund	1.0201
Equity Portfolio	1.0234
Employer Stock Fund	1.0216

Labs Size Determined by Funding

Change in Mission, Work Prompts Budget Process Change

Mark Twain observed in a 1908 letter to a friend: "Thunder is good, thunder is impressive; but it is lightning that does the work."

That analysis might well apply, respectively, to the real-world relationship between Sandia's accomplishments and money: The accomplishments are impressive, but it is money that does the work.

During the decades-long Cold War face-off with the Soviet Union, the budget was driven mostly by tasks: National security needs were identified and money was routinely found to fuel the work required to satisfy those needs. In the post-Cold War world, money is more difficult to find, and Sandia must earn it through superior performance.

To ensure that the accomplishments continue to be impressive as funding becomes more elusive, the way financial resources are allocated internally is changing. The change process was initiated during the last fiscal year when Executive VP Orval Jones (20) declared the system "broken" and pulled together a team to make some improvements.

"The key component in planning how to turn money into accomplishment is the translation of customer requirements into project plans."

Phil Montoya (9912), who represents the Work for Others (WFO) Sector on the process/development team that has designed the revised system, says even terminology has changed.

"We refer to the process as the 'spending plan' instead of the more encompassing 'budget,' " says Phil, "because that really identifies it more accurately. 'Budget' can mean revenue, an external funding request, or a spending plan. The name change more explicitly defines our objectives."

The change in terminology also serves to differentiate the improved process from the old, he says.

Key Planning Component

"The key component in planning how to turn money into accomplishment is the translation of customer requirements into project plans, which are then negotiated between program and project managers," says Orval. "The revised process reduces the detailed paperwork burden at this step, allowing the principals to focus on the value-added activities and compress more planning iterations into a shorter time."

The process is being developed under the auspices of the Sandia Program Council (SPC) with input from representatives from all six primary management areas (PMAs), the California site (8000), Human Resources (7500), and the Chief Financial Officer Division (100).

The PMAs are the three sectors — Defense Programs, Energy and Environment, and Work for Others — plus Laboratory Directed Research and Development, the Administrative Management Council, and Center Support.

Points in New Process

Significant points in the new process, which will be used to develop the fiscal year 1994 spending plan, Phil says, are:

• A three-year program-level plan placing the greatest emphasis on the immediate impending year with strategic-planning input for the next two years. This effort will provide multiyear direction to all Sandia entities to align our staffing with the strategic direction of our projected customer requirements.

• Labs size — full time equivalency (FTE) — is determined by estimated multiyear sector revenue.

• The spending plan is formed at the program level, via negotiations with center directors, which will provide organizations a much better opportunity to configure themselves to meet program requirements.

• A Labs spending plan at the division level is negotiated and approved before detailed spending plans are requested. This plan is based on the program manager and center director inputs, including FTEs and total cost.

Among the key factors differentiating the revised system from the current one are translating customer requirements through increased program-manager responsibility, collaboration of program managers and center directors in configuring organizations according to programmatic requirements, and sizing plans to revenue FTE constraints before detailed project level spending plans are submitted.

8,566 Employees for FY94

Phil says the most recent milestone in the new process was the issuance (by Orval) of the initial FY94 spending plan matrix (which articulates FTE and total-cost targets), by PMA, May 21. That calls for an overall Labs size of 8,566 FTEs, and $1.38 billion in spending. By comparison, the projected end-of-FY93 numbers are 8,520 FTEs and $1.27 billion.

In the post-Cold War world, money is more difficult to find, and Sandia must earn it through superior performance.

Upcoming milestones are:

• July 19, initial FTE matrix/spending plan, from program managers and center directors.

• Aug. 16, plan sized to revenue, and FTE constraints and issues resolved.

• Aug. 30, final spending plan from program managers and center directors approved by SPC and the new management and operating contractor.

• Aug. 30, spending plan call for project-level detail to program managers, from Org. 180.

• Sept. 20, submission of detail-level spending plans, from program and project managers. •HK

Favorite Old Photo

This isn't exactly an action shot — the action was in learning how to drive the machine seen in this 1949 photo. (I'm the 15-year-old behind the wheel, and my younger sister is beside me.) The vehicle was an old Ford, stripped down to four tires, a seat, a steering wheel, and a motor. My older sister and I both learned to drive in it — by ourselves! We lived in the country near a wooded area. Each time we came back from a drive, my dad would just ask, "Well, how many trees did you hit today?" Harriet Goodness, 7900

Flexed Mailback

Q: I recently promoted a staff member to fill a vacant department manager position within my center. I was appalled to find out that we were no longer allowed to list personal hobbies or interests in the LAB NEWS promotion notices.

We claim to be changing our culture to become more people oriented and yet we now recognize only the impersonal "work" aspects of our staff. I consider this another step toward becoming an impersonal, rule-based organization.

A: Your contention that this change is another step to Sandia becoming an impersonal, rule-based organization strikes a nerve, because what we are trying to do is to become more people oriented by freeing up some space that can be used for other types of people-oriented news and features.

A Quality Action Team comprising all members of Employee Communications Dept. 7162 has been looking at our editorial policies and formulas for both the LAB NEWS and *Weekly Bulletin* in recent months to examine how we can improve them.

Our team believes the LAB NEWS has traditionally contained too much information about Sandia managers and too little about non-managers. To free up space for more stories about non-managers, the team determined that the supervisory appointment write-ups could be shortened by eliminating some personal information (hobbies, family information, place of residence, etc.) about the managers, along with some details about their Sandia work history.

We are working now to refine some new ideas for more people-oriented stories involving non-managers — ideas that we plan to put into action soon. We think most folks will like the change.

Thanks for your concern.

Larry Perrine (7162)

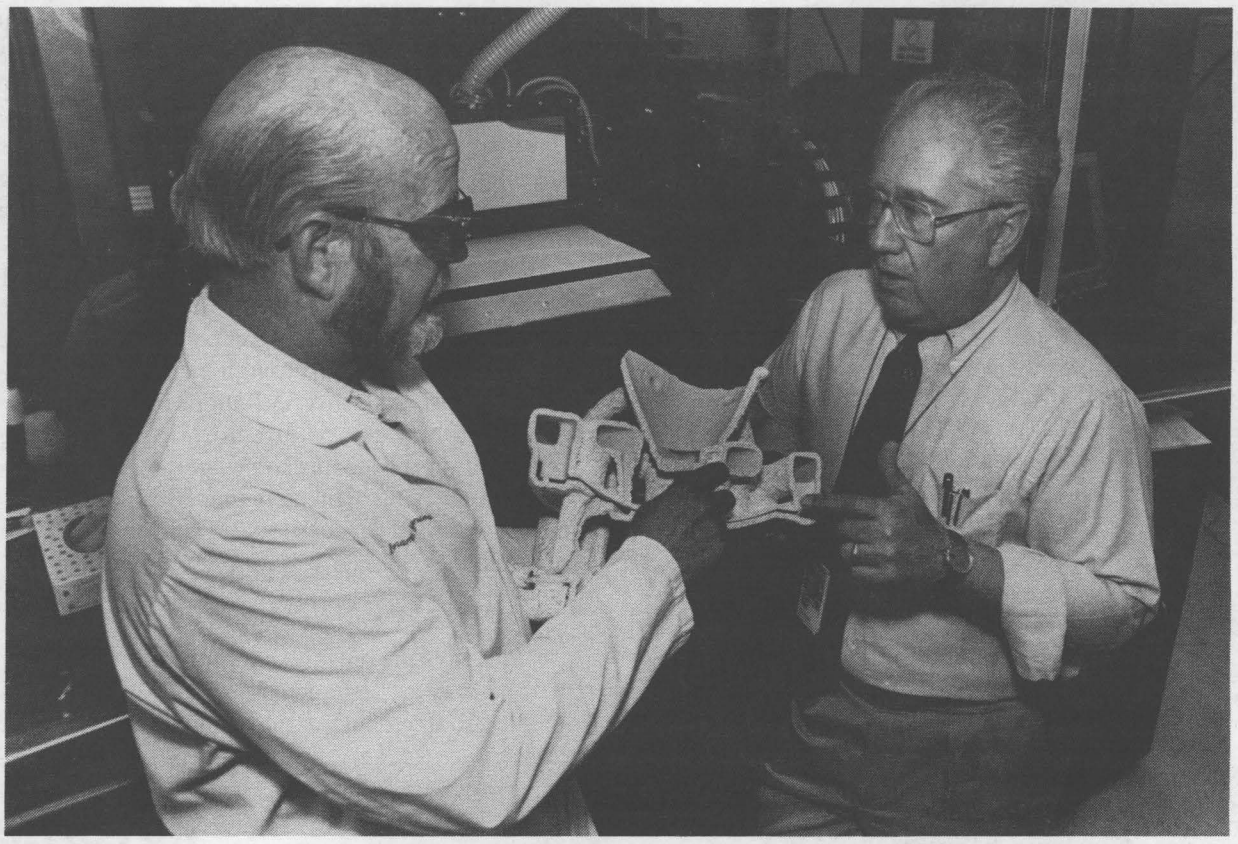
What's Happening in the Component Development And Engineering Support Division

By Heinz Schmitt (VP-2000)

Editor's Note: This is the eighth, and last, in a series of LAB NEWS articles by Sandia's vice presidents, discussing what's happening in their areas.

The most pervasive ingredient in our lives today is change. It is occurring in every family, organization, laboratory, and nation. While there is cause for some anxiety, I hope we can see this massive change as a tremendous opportunity. At Sandia, we need to take our enormous wealth of technical capability and experience, embodied in our people and facilities, and leverage it over a broader set of activities. We must maintain our stewardship responsibility in nuclear weapons. However, a new challenge for our *exceptional service in the national interest* is for us to help US industry regain its competitiveness. We must team with other government agencies and industry to achieve this national imperative. All of Division 2000 along with the rest of the Labs can be a contributor in this important goal. This article describes a valued organization in transition to a multi-program, multi-sector resource that can help ensure the success of our customers.

"A new challenge for our *exceptional service in the national interest* is for us to help US industry regain its competitiveness."



LEIF GONNSEN (left) of Ceramics Process Team 2476-1 and Heinz Schmitt (VP-2000) examine a ceramic mold produced directly from a computer-aided design model. The process, developed by the Massachusetts Institute of Technology, uses ink-jet technology to place drops of a binder on a bed of ceramic powder and thus build up an object. The first prototype machine to employ this process is being used at Sandia as part of an advanced development project.

Our major areas of expertise in the Component Development and Engineering Support Division are: component design and development (Centers 2200, 2300, 2500, and 2600); engineering support (Centers 2400, 2700, and 2800); and advanced manufacturing technology (Center 2900).

Fifteen hundred of the Labs' 8,500 employees are in Division 2000 — a group that's responsible for ensuring that about $300 million in programmatic funds per year is used to the best advantage of our nation. Sandia's customer base is changing, and we are aware of the challenges we face in adapting. We must be flexible and adapt our operating modes to focus more and more on customer needs.

Tremendous Challenges

Like all other divisions at Sandia, Division 2000 is confronted with tremendous challenges caused by a change of focus from primarily weapons to a broader program focusing on US competitiveness. Technical excellence — a Sandia trademark — will continue to be very important in Division 2000, but we must become more flexible and adaptable. Our capabilities in quality processes, business methods, and teaming will become increasingly important. Quick response, the ability to work closely with industry, utilization of core competencies, and a high-quality skill set are a few of the attributes that we must develop as an organization. Changes to our traditional ways of doing business have begun:

• Design definition technicians are being relocated to areas closer to their customers. In some cases, technicians will be co-located in customer organizations.

• Because our traditional testing operations have declined and we plan to provide more flexibility in operations, Development Testing Center 2700 is transitioning to a "campaign mode" for our Tonopah Test Range and Coyote Canyon (Area 3) facilities. By scheduling split-term operations of these facilities and by cross-training facility operators, one team will support both complexes.

• Each center in Division 2000 has formed operations or business offices to become more efficient and to increase our flexibility for customers. Cross-disciplinary teams are experimenting with new ways to achieve better performance.

• We have established vigorous quality and ES&H (environment, safety, and health) programs that are fundamental to all our activities. We have begun incorporating Malcolm Baldrige quality methodology into our operations.

• Buildings 878 (Process Development Lab) and 858 (Microelectronics Development Lab) will soon be located outside the security fence to provide improved accessibility for our university, industry, and government partners.

• We established the Advanced Manufacturing Technology (AMT) Center 2900 to coordinate the Labs' work in manufacturing with US industry, universities, and other government labs and agencies — a totally new mode of operations in Division 2000.

In the following sections, the Division 2000 directors talk about what's happening in their individual centers.

Value for US Industry

Director Ray Bair's Component Parts Center 2200 focuses on providing value to American industry while anticipating the needs of the three Sandia sectors [Defense Programs, Energy and Environment, and Work for Others]. "In each of our four major business thrusts," says Ray, "key initiatives encourage a growing industrial awareness and contribution." For example, Sandia recently signed a cooperative research and development agreement (CRADA) with General Motors to address the harsh environment found under automobile hoods.

"Increasingly," says Ray, "microelectronics are being used to control automobile engine performance. This will require products with functional and environmental performance beyond what we have today. So while microprocessor-based electronics are speeding to Venus and Jupiter for a rendezvous years from now, we are applying the same technologies to the family sedan to enhance performance and convenience."

The transportation industry also has asked to use the Center's Laser Detection and Ranging (LADAR) project in collision-avoidance studies.

As electronic assemblies become increasingly complex, the need for packaging efficiencies becomes more important. "We work with research centers and industrial customers to transform laboratory capabilities into functioning products employing advanced packaging," says Ray. "This differentiating strength is enhanced by our broad design capability that includes analog and digital integrated circuits plus substrate layout."

Failing components are a bane to all engineers and to the ultimate consumer. Center 2200 specializes in developing state-of-the-art failure-analysis techniques and reliability physics models. "Understanding weapon component failure helps us support a broad range of industry," says Ray. The Center — as represented by Ted Dellin (2205) — last year received a Federal Laboratory Consortium award for technology transfer as a result of this work.

"We must become more flexible and adaptable."

Subsystems Are 'Critical Elements'

Director Ron Andreas explains some of the work going on in Electronic Subsystems Center 2300. "Our subsystems," he says, "are critical elements of many business sector programs. For instance, our new signal generator and radar fuse will greatly improve the country's nuclear weapons stockpile. Our synthetic aperture radars are essential sensors for use in target acquisition, accurate weapon delivery, and imaging various earth features for energy and environment applications. Our guidance and control components are used in many rocket systems, such as in the recently successful Strategic Target System (STARS) flight test from the Kauai Test Range" [see page one].

The center's special-purpose computers are advancing the state-of-the-art in real-time processing speeds for image/signal processing and control of flexible structures. Center 2300 is also developing accurate positioning systems for lithography, systems that will enable integrated circuits with

much higher densities than those currently available.

"We are also pursuing new initiatives in health care and advanced manufacturing, says Ron. "We are modeling and improving the processes used to design, develop, and manufacture products. By working with industry and understanding their needs, we can further advance processes that not only serve DOE needs, but that also help the nation's electronics industry become more competitive."

Agile Manufacturing Concepts

Emerging responsibilities for Manufacturing Technologies Center 2400 include fabricating components for DOE as the weapons production complex shrinks and playing a major role in helping US industry enhance its competitiveness in manufacturing.

Key strategies for Sandia include agile manufacturing concepts. "There are three aspects to implementing agile manufacturing," says Center Director Jimmie Searcy. "The first is agile prototyping capability for particular components, the second is stimulating a culture of agility, and the third is enhanced information flow."

Some of the new advanced manufacturing initiatives in Center 2400 are flat-panel initiatives for the National Center for Advanced Information Component Manufacturing (NCAICM, sponsored by the Advanced Research Projects Agency), rapid prototyping, and a national machine tool partnership.

"We also hope to infuse the nation's nuclear weapons program with more advanced agile manufacturing technologies."

"The NCAICM concept is enthusiastically endorsed by industry," says Jimmie, "and the 2400 Center is working diligently to ensure its success."

Active in Three Major Areas

Energy Components Center 2500 staff support three primary customers: Sandia business sectors, US industries with problems that impact the national interest, and the public and private sectors through technology transfer. In the past year, the Center has been buzzing with activity in three major areas: DOE Complex 21 Reconfiguration, dual-use concepts, and battery work for DOE and industry.

"In regard to reconfiguring Complex 21," says Center Director Gary Beeler, "we will provide leadership in several critical nuclear weapon technologies, such as neutron generators, switch tubes, batteries, and explosives. We also hope to infuse the nation's nuclear weapons program with more advanced agile manufacturing technologies."

Some examples of dual-use concepts already funded are: thermal batteries for the Air Force and Navy, an optically driven pyrotechnic system for explosive ordnance disposal for the Department of Defense (DoD), explosives and firing systems for next-generation weapon safeguard trailers, rechargeable battery technology, and power conditioning for satellites.

FLOATING BY MAGNETISM: From left, Doug Jordan, Joel Darnold, and John Wronosky (all of Manufacturing Applications Dept. 2338) are part of a team developing this magnetically levitated positioner. The technology could be used for ultra-precision applications such as integrated-circuit manufacturing.

The battery work for the DOE Office of Energy Management and the Office of Propulsion Systems focuses on the potential application of batteries for a broad set of applications. Gary adds: "We are also working under a CRADA with the United States Advanced Battery Consortium in advanced technologies for potential applications to electric vehicles."

Emphasis on Stockpile Surety

Weapon surety components today must be cost effective as well as capable of meeting increased performance levels. That's the challenge for the people of Surety Components and Instrumentation Center 2600.

"In developing surety components," says Director John Stichman, "2600 staff implement processes that support and enhance concurrent engineering and advanced manufacturing technologies." Key elements of these processes include developing and deploying computer-aided engineering information tools that show real promise in facilitating the flow of information to engineers in widely separated locations.

"Our instrumentation and telemetry capabilities have demonstrated wide applicability beyond their roots in weapon flight test instrumentation to a broad range of needs for data gathering in harsh environments and other difficult circumstances," says John. "For example, the oil well borehole seismic receiver project required us to adapt our technologies to gather accurate data in a very high-temperature environment."

"We work with research centers and industrial customers to transform laboratory capabilities into functioning products."

Center 2600 has developed a Sandia Modular Advanced Reconfigurable Telemetry System (SMARTS) that will serve changing customer needs without having to develop a custom solution for each request.

Test and Evaluation Expertise

Test and evaluation capabilities maintained in Development Testing Center 2700 are relevant to many of the Labs' new initiatives. "Our ability to test full-scale systems," says Director Ruth David, "as well as subsystems and components, enables us to help validate increasingly complex computer models."

Nondestructive Evaluation (NDE) capabilities are being leveraged in support of the Federal Aviation Administration's efforts to develop, validate, and deploy NDE instrumentation to field inspection of the aging commercial aircraft fleet. Closely related problems exist in other areas, such as in the inspection of bridges and other parts of this country's transportation infrastructure.

"Expertise in modal vibration and structural dynamics testing is applicable to a wide spectrum of problems relating to Advanced Manufacturing and Transportation," says Ruth.

Work initiated as a Laboratory-directed Research and Development (LDRD) project was the genesis of the "virtual test" development activity, in which computer-aided modeling, simulation, and testing are intimately integrated. This work is applicable to the problems of education, retraining, and productivity enhancement for practicing engineers.

Advanced Information Systems

Among the responsibilities of Design Center 2800 are product definition services, engineering and manufacturing information management, and

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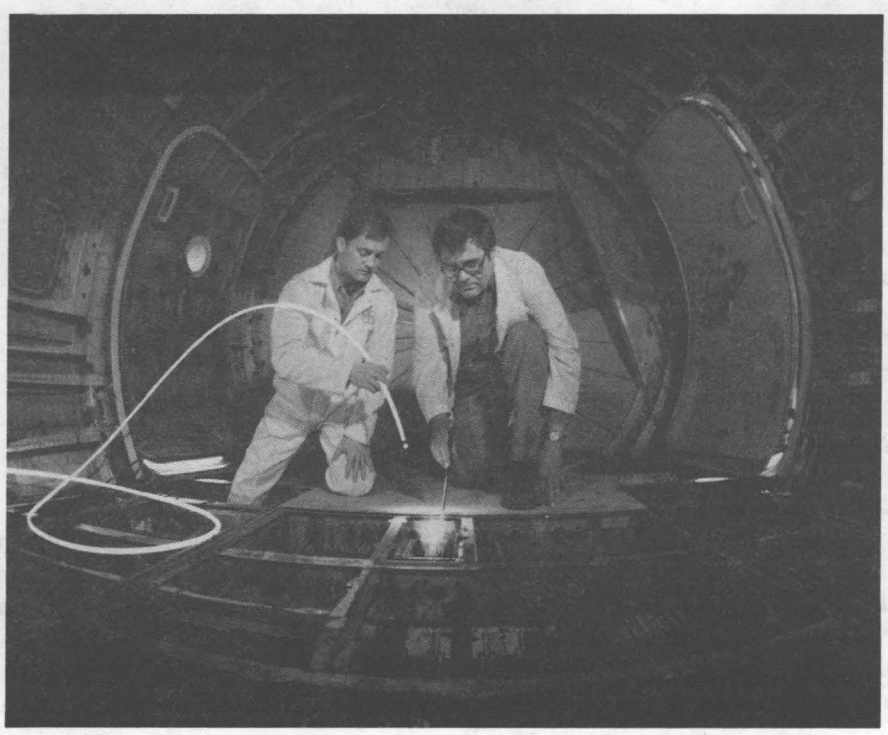

AIRCRAFT INSPECTION: Dennis Roach (left) and Ken Harmon (both of Aging Aircraft Project Dept. 2757) inspect the fuselage structure of a Boeing 737 using enhanced visual-inspection equipment — a flexible light pipe attached to a fiber-optic illuminator. Dennis is project engineer of Sandia's Aging Aircraft Nondestructive Inspection Validation Center (AANC), which is managed by Dept. 2757 and sponsored by the Federal Aviation Administration. Ken is the AANC facility manager. The aircraft they're inside was acquired earlier this year for use in AANC research.

(Continued from Page Eleven)

What's Happening In Division 2000

computer-aided design, training, and support. While many may know this organization as "drafting," it has a significant role in developing advanced information systems that form the foundation for concurrent engineering and manufacturing processes.

"The Design Center has taken a national leadership position in developing, fostering, and implementing standards for the electronic exchange of product data," says Acting Director Jack Jones.

In addition, the Center has found a new and better way to serve its customers. "If you use our drafting services," says Jack, "you no longer need to come to our office — our new mobile services will come to yours."

Center employees have found that this service on wheels is appreciated by its customers. The Center is also proud of (and has been recognized nationally for) its contributions in the area of modeling production information systems. "We're on the cutting edge of technology," says Jack.

Expertise in Manufacturing

Bill Alzheimer, Director of Advanced Manufacturing Technology (AMT) Center 2900, says his organization was created to emphasize Sandia's expertise in manufacturing.

In collaboration with its partners, the Center's mission is to provide leadership by developing and demonstrating agile manufacturing technologies for defense and civilian use, engineering integrated manufacturing solutions, and participating in industry-led initiatives.

One such initiative is the Agile Manufacturing Enterprise Forum (AMEF). The AMT Center coordinates advanced manufacturing efforts at Sandia with US industry, universities, and other government labs and agencies to enhance economic and military security.

The National Center for Advanced Information Component Manufacturing will be operated in partnership with DoD and DOE to contribute to industry competitiveness in flat-panel display and microelectronics and is particularly interested in establishing relationships with small business. "Our intention," Bill says, "is to make Sandia-generated technologies available to firms that will manufacture in the US."

Seizing Opportunities

As we face significant changes in our working environment, Division 2000 is working hard to create opportunities to apply the current and future capabilities of our people and facilities to make Sandia stronger and our nation more competitive in today's world market. We will partner with the Sandia sectors and build on the Labs' core competencies.

We are working to become a highly responsive organization that has close ties to industry, to our universities, and to other government agencies. We intend to be an organization valued for its abilities to contribute significantly in technological areas.

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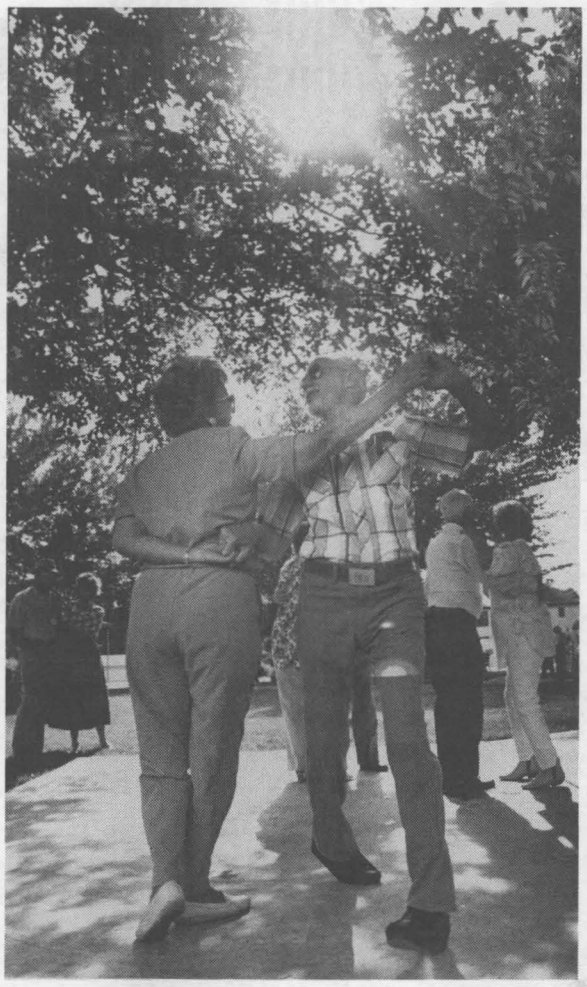


Retiree Picnic Attracts 1,600 Folks May 19

Tripping the light fantastic, Jeane and George Ingram (at left) show off their dancing style during the annual Retiree Picnic May 19 at the Coronado Club, while Agnes and Gene Harling (below) enjoy a meal on the merry-go-round (looks like it could become a revolving restaurant).

Picnic organizer Linda Stefoin of Department 7544 says more than 1,600 fun-seeking retirees and spouses showed up for a fine afternoon's frolicking. The Bob Weiler Band provided music, and members of Sandia's Large Staff joined the fun.

"It was really a festive occasion, and I think the folks who came had a lot of fun," says Linda. "Thanks to the Sandians who helped organize the picnic. They put in quite an effort to make it a good event for the retirees."

Take Note

A photographic exhibit, "Venus Unveiled: Images from the Magellan Mission," featuring spectacular images of planet Venus, opened May 8 at the New Mexico Museum of Natural History and Science in Albuquerque. The Magellan spacecraft was launched from the space shuttle Atlantis on May 4, 1989, and arrived at Venus on Aug. 10, 1990. During the first eight-month mapping cycle, a radar instrument aboard Magellan obtained images of 84 percent of Venus' surface. Mapping continues, filling gaps in coverage from the first cycle and covering Venus' south pole for the first time. This is the first close-up look at Earth's "twin" planet because the sulphur yellow clouds enshrouding Venus are too dense for an ordinary camera to see through. Magellan uses a radar system that penetrates the clouds to reveal Venus' surface. The exhibit continues through June 2. The Museum is open 9 a.m.-5 p.m. daily. For information, call 841-8837.

* * *

Saturday, June 5, is National Trails Day. This nationwide event celebrates the 25th anniversary of the passage of the National Scenic Trails Act. New Mexico Volunteers for the Outdoors and the Sierra Club plan to join Albuquerque Open Space and Cibola National Forest in a joint work project in the Elena Gallegos picnic area and on the Pino Trail. Volunteers will work on rerouting a section of the North Pino Trail within the Open Space boundary and will perform trail maintenance on the Pino, NMVFO's adopted trail. Both groups will meet at 8:30 a.m. in the Elena Gallegos picnic area. Work will be finished in time for volunteers to catch National Trails Day festivities at San Gabriel Park (see below). Call David Morrison on 344-8693, David Fletcher on 293-9525, or the NMVFO office on 884-1991.

National Trails Day celebration at San Gabriel Park, noon-5 p.m., will feature speakers, food, and entertainment. Drive west on Mountain Road from Rio Grande Blvd. until you reach the park.

The NMVFO meets the first Wednesday of every month at the Home Office Plaza Clubhouse (2403 San Mateo NE). The public is invited to the next general meeting on June 2 at 7 p.m. Chris Hill from the Quemado Ranger District will discuss the upcoming Quemado Lake Project.

* * *

Retiring and not shown in LAB NEWS photos: Robert Roth (2403), Garth Fahrbach (2334).

Final Contract Offers Due Today

DOE Says New M&O Contractor Selection 'On Schedule'

While Sandians' anxiety level may be rising a bit as DOE's process of selecting a new management and operating contractor for the Labs draws nearer its end, there is little to do except wait, say those most closely involved in transition activities.

"Many Sandians have participated in a variety of ways since AT&T announced a year ago it would not seek a renewal of its contract to manage and operate the Labs," says Executive VP and Transition Executive Lee Bray (30), "but this has always been a DOE process. We have answered requests for information from DOE and prospective bidders and worked on keeping our own employees abreast of developments, but we're the subject of the transition, not its agent."

Even so, he adds, "I believe we've succeeded in guiding some aspects of the transition that are of great current and future importance to the Labs and its employees. For example, we've been able to retain the Savings Plan, and even improve it. That's of primary importance because it impacts retirement plans and other future financial planning critical to the well-being of Sandians."

Many things that employees would like to know, though, Lee points out, won't be known until the new contractor — either Battelle or Martin Marietta — is named, and perhaps not even until after the new contract takes effect Oct. 1.

"We have . . . worked on keeping our own employees abreast of developments, but we're the subject of the transition, not its agent."

"It's tough for everyone, including members of the Transition Council and Transition staff, who have worked hard on this project since it began, but know little, if anything, more than is known by every other Sandian about the future contract," Lee says.

Announcement Expected in July

Meanwhile, Denny Krenz, Chairman of DOE's Source Evaluation Board (SEB), says the process is "moving along on the schedule laid out at the beginning" and an announcement of the winning contractor is expected by the end of July.

A team from the new contractor is expected to be in place at Sandia by Aug. 1, for the 60-day transition period before the existing contract expires Sept. 30.

DOE announced March 18 that it had selected Battelle Memorial Institute and Martin Marietta as the two finalists. Although the department declined from the beginning of the process to name organizations actually bidding on the contract, widely published reports consistently named seven: the two finalists and EG&G, Loral Corp., Raytheon, Science Applications International (SAIC), and TRW.

An announcement of the winning contractor is expected on schedule — by the end of July.

Krenz says SEB members visited some sites operated by the two finalists as part of their appraisal process. Battelle sites visited were Pacific Northwest Labs and institute headquarters in Columbus, Ohio; they visited Martin Marietta sites at Oak Ridge, Tenn., and Denver.

"The requests for best and final offers went to both organizations May 14 and responses are due back to us by May 28 [today]," he says. "After members of the board evaluate those offers, we will brief the Source Selection Officer (SSO) at DOE Headquarters. The final selection will be up to the SSO."

What is known about details of the new contract and how it will affect the Labs' future operation will be described soon in the LAB NEWS.

Call Sandia Line for Information

Meanwhile, Sandians' questions may be addressed to Sandia Line's Transition Activities information service. To access the service, follow these instructions:

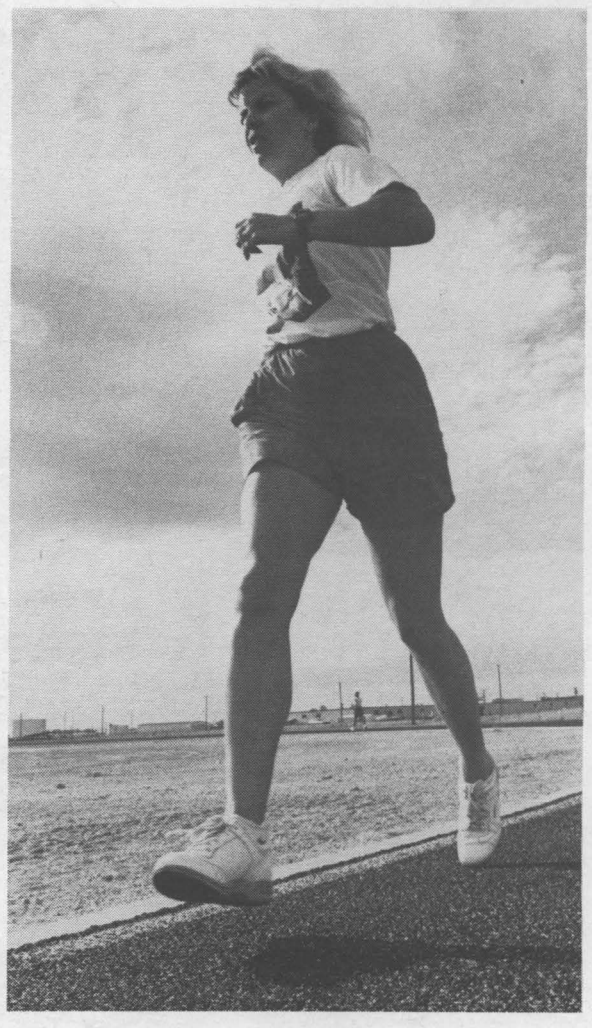
After calling 845-6789, press 7 to hear directions to get to different destinations within that menu. If you are in a hurry, or have a specific interest, you can use four-digit "quick dial" codes.

For "quick dial" service, after calling 845-6789, press 9, then one of the following four-digit codes, followed by the pound (#) key:

- 1251 — State a contract transition concern or question. If you want a personal answer, follow the instructions and one will be sent to you.
- 1252 — Listen to previously submitted concerns or answers to questions. For a specific interest within this category, use one of the following five codes:
  - 1255 — General
  - 1256 — Transition Council activities
  - 1257 — Contract procurement process
  - 1258 — Human Relations and Benefits
  - 1259 — Impact on Sandia business
- 1253 — Ask the system to fax you a copy of all concerns and responses in the preceding items.
- 1254 — Listen to a short summary of recent Transition Council activities. •HK

Fun & Games

Golf — The Sandia Golf Association's (SGA) Chet Fornero Memorial Golf Tournament was held at Paradise Hills on May 8. Results are as follows: A Flight — Phil Federico (5911), first place; Fernando Uribe (2411), second place; Pres Herrington (9236), third place; and Mike Gray (9135) and Frank Delgado (7435) tied for fourth place; B Flight — Charlie Salazar (2482), first place; Carl Leishman (2412), second place; Tom Welch (9249), third place; and Gary Holmes (7328), fourth place; C Flight — David Norwood (2411), first place; Ben Chavez (7329), second place; Bruce Bainbridge (1513), third place; and Ron Larson (DOE), fourth place. For more information about SGA events, call Mark Retter (5713) on 293-4754.



JACKIE KERBY MOORE of Energy and Environment Division 6000 covers a lot of ground during her 6-to-12-mile race-walking workouts five or six days a week. It pays off for her, though, as she recently won — for the second year in a row — the National Masters Indoor Track and Field Championship for the 30-to-34-year-old age bracket. The meet was held in Bozeman, Mont. Jackie, who has been competing for three years, hopes to qualify for the 1996 Olympic Trials in race-walking.

Sandia News Briefs

Dick Craner Receives 1993 DOE Classification Award

Dick Craner, Manager of Classification and Sensitive Information Review Dept. 7180, was recently awarded the 1993 Classification Award of Excellence during a DOE classification officers meeting in Las Vegas, Nev. The annual award recognizes DOE classification officers' commitment to the DOE classification program.

The award citation calls Dick a "leader in the DOE classification community" and commends him for significant contributions he has made "in the development of classification policy and guidance in a wide variety of areas, in particular the Joint DOE/DoD Nuclear Weapon Classification Policy Guide and its many related Topical Classification Guides."

New Mexico Sandians Among Top Participants in '92 Better Air Challenge

RIDEPOOL announced recently that Sandia took first place for its size category in the 1992 Better Air Challenge, an annual competition among Albuquerque businesses aimed at encouraging employees to find alternate forms of transportation to and from work. RIDEPOOL is a non-profit community transportation referral agency that sponsors the competition.

The award recognizes Sandians' commitment to ride sharing during Albuquerque's high pollution months (October through February). To participate, Sandians pledged to use an alternate form of transportation during the week of Dec. 7. Challenge officials presented commuter assistance coordinator Linda Stefoin (7544) a plaque on behalf of Sandians. Several Sandians also won prizes in a related drawing.

Arlin Cooper Writes Chapter on Computer Security in EE Handbook

Arlin Cooper of System Studies Dept. 331 wrote the Computer Security section of the recently published *The Electrical Engineering Handbook*. Publisher of the 2,600-page handbook is CRC Press, Inc.

Arlin says several other Sandians helped with material for the section, including Ernie Brickell, Manager of Algorithms and Discrete Mathematics Dept. 1423, Lyndon Pierson of Networking Dept. 1954, and Pete Warner of Advanced Information Technology Dept. 9232.

Send potential Sandia News Briefs to LAB NEWS, Dept. 7162.

MILEPOSTS

LAB NEWS

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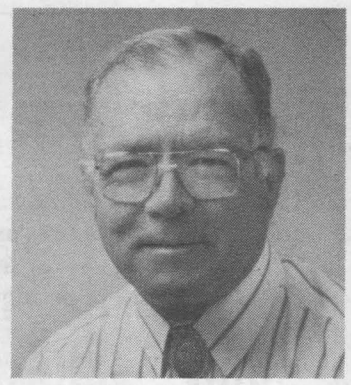

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Gwendolyn Germany
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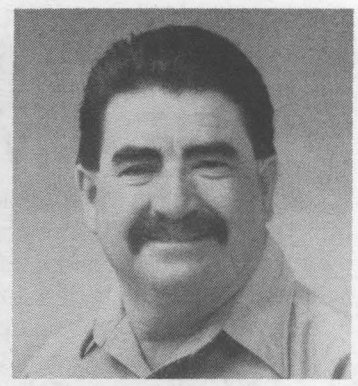

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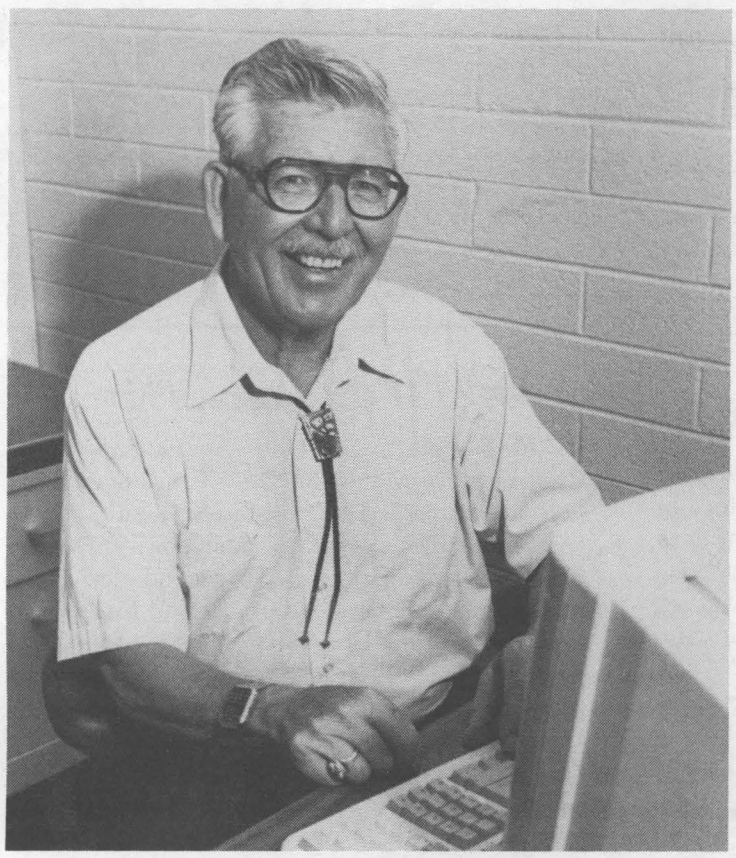

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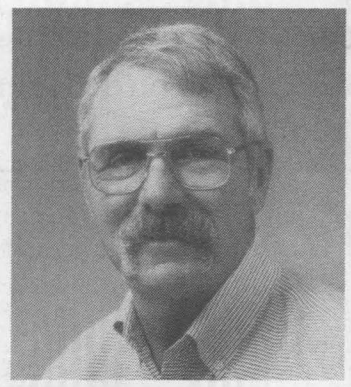

John Eisenberger
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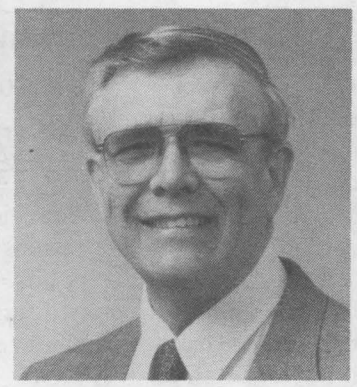

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Patricia Baca
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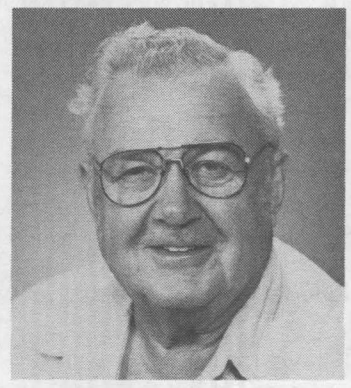

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Rebecca Hunter
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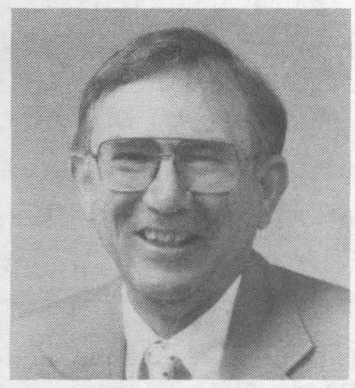

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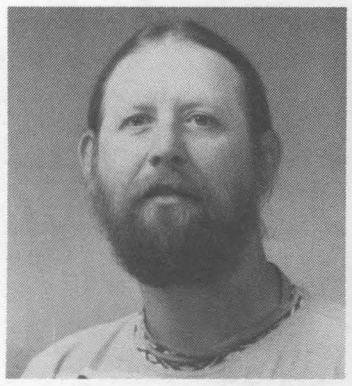

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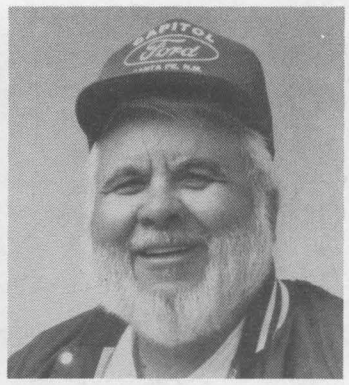

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Isabel Castillo
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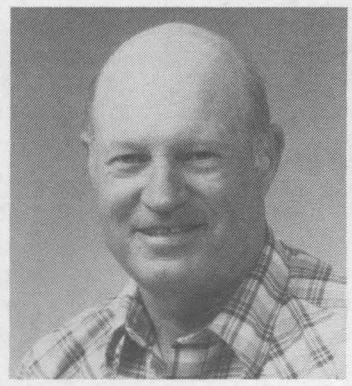

Chauncey Matthews
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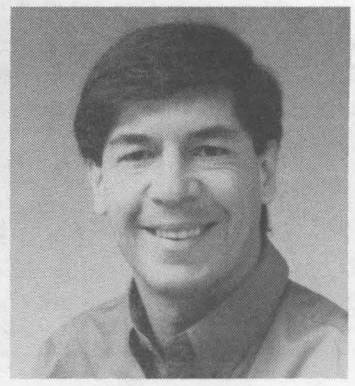

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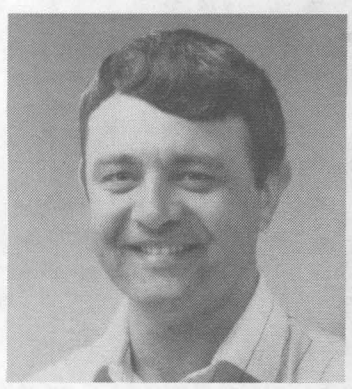

Bryan Burns
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Gila Yaniv
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David Tenorio
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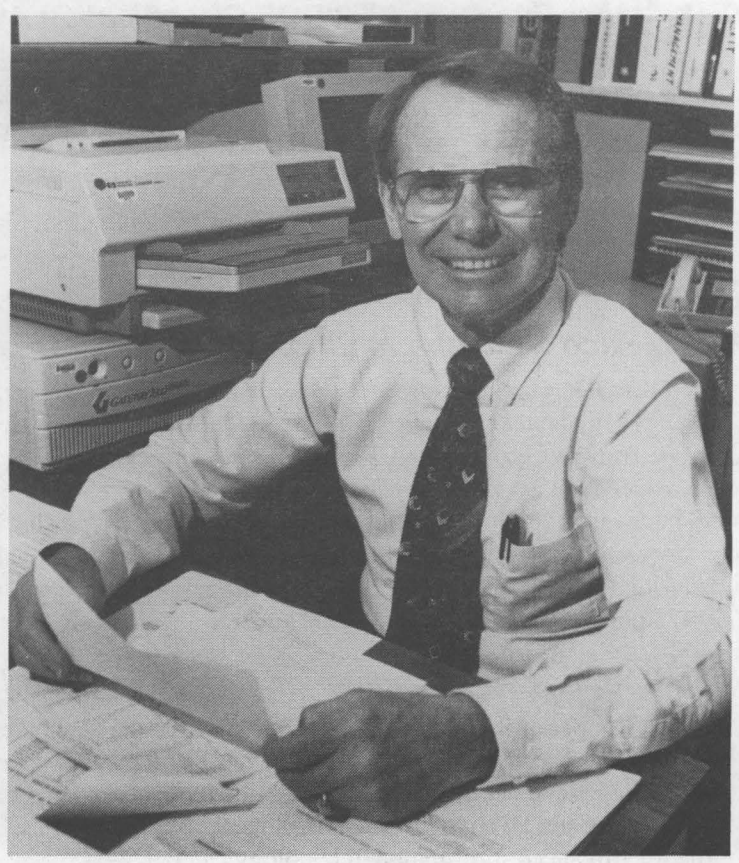

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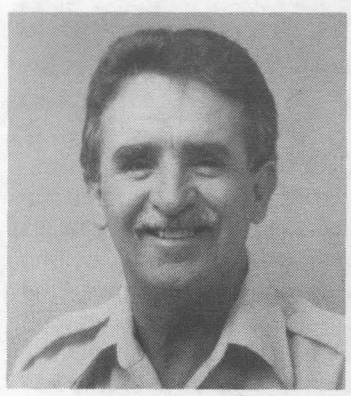

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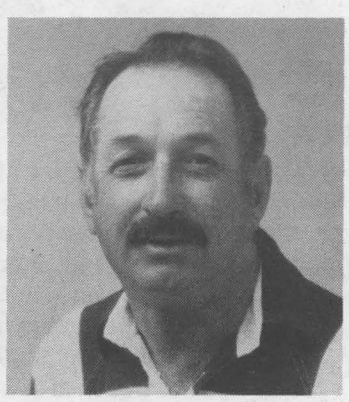

Kenneth Grant
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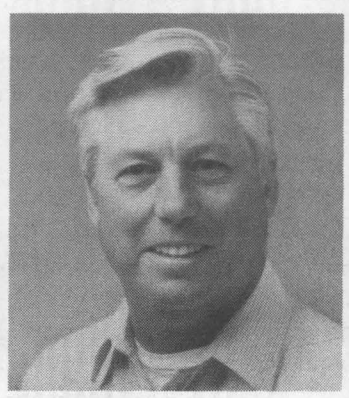

Vern Willan
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Feedback

Q: I understand that personal mail is clogging the mailroom and we can no longer mail a bill, letter, or other mail through Sandia. Since that is the case, a US mailbox should be available in the vicinity of the cafeteria. The closest boxes, otherwise, are outside Bldg. 823 and in front of Bldg. 800.

A: Regarding personal mail, SLI 1900 says Sandia mail services are not to be used for receipt of personal correspondence, but personal mail may be sent out through Sandia mail services if it contains adequate postage. While that remains in force, the Mail Center is pursuing solutions like the one you mention as a way of reducing the volume of personal mail on a voluntary basis.

As to additional letter drops, we asked the US Postal Service (USPS) about your request and were told it would not be feasible to add another collection box, since a small amount of mail is taken daily from the existing ones you referred to. Also, Sandians could use the collection box at the intersection of Wyoming and F Street or the base post office.

Current plans call for the two existing collection boxes — in front of Bldg. 800 and between Bldgs. 821 and 823 — to be moved out to the curb area so they can be used as drive-up boxes. If those moves do not increase the use of the boxes, the USPS may consider removing them altogether because the base postal service makes a special trip to Sandia to collect mail.

Irene Gonzales (7613)

Help Us Recognize Sandians

The LAB NEWS wants to recognize Sandia employees and retirees who receive honors and awards. Give us a call at 844-7841, or send a note with a few details to Department 7162. In Livermore, contact Barry Schrader (8522) on 294-2447.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Dept. 7162.

Ad Rules

1. Limit 20 words, including last name and home phone (the LAB NEWS will edit longer ads).
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8½- by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "for rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.
13. "Work wanted" ads limited to student-aged children of employees.

MISCELLANEOUS

COUCH, traditional styling, brown/gold, good condition, $100. Bisbee, 293-0356.

REFRIGERATOR, Amana, side-by-side, almond, $200; black fireplace tools, $10. Clark, 857-0434.

WALK-IN COOLER DOOR, 36" x 80", nice wood and hardware, w/jambs, $500; hog feeder, Oakes model 10, 4 doors per side, $200. Adcock, 873-1821.

ANTIQUE OAK ICEBOX, White Mountain Grand, large, excellent condition, $500; stereo receiver, Technics, $60. Petersen, 275-7467.

LAWNMOWERS: '80 Sears, '80 Wards, $25/ea.; '92 Sears, $50; '76 Dayton 8-hp riding mower, $75. Brice, 345-4827.

REFRIGERATOR, avocado, $150; crib mattress; stroller. All like new. Gonzales, 823-9511.

PRINTER, C. Itoh 8510, windows compatible,$50; printer stand, $10; gun, H&K P7M8, 9mm, never fired, $800. White, 255-9586.

SAILBOARD, 12-ft., beginner/intermediate, w/5m sail, car-top rack, $325; Star Gemini 15X printer, 15-in., $70; Citizen 120D printer, $65. Green, 281-4533.

DIGITAL RADIO CONTROL, 10-channel, $300; aluminum scuba tank, $60; Digital drum machine, $60. Shead, 880-1052.

JET PRINTER, Diconix 300W, $100; Hyunday monochrome monitor, $50; Kaypro XT computer; Diablo daisy wheel printer; Smith-Corona electric typewriter. Best offers. Meirans, 271-2313.

DRESS BOOTS, 3-in. heels, 2 pair, one black, one winter white, like new, each worn once, paid $50 per pair, will sell for $35 each. Island, 275-9444.

FIVE-STAR RIMS, Chevy 15 x 7, aluminum alloy progressive, set of 4, w/locks, paid $500, sell for $300. Flores, 831-2954.

WATERBED, king-size, 12-drawer pedestal, w/mirrored dresser, $400 OBO. Miller, 828-2708.

PLAY PEN, Fisher Price, full-size, approx. 38" x 38", like new, paid $70, asking $35. Krause, 299-0931.

ONE-DISK CD PLAYER, Sony, music scan, program, shuffle, repeat, fader, time, earphone jack, like new, $125 OBO. Moreno, 294-4268.

WATERWICK CONSOLE HUMIDIFIER, $50. Petersen, 857-9866.

ORGAN, Lowry, Magic Genie Chord, w/music, head set, good condition, book value $1,275, sell for $900 OBO. Coe, 294-5397.

PEKINGESE PUPPIES, AKC-registered, 3 females, 2 white, 1 tan, will be 6 weeks old on June 2; Casio cash register, $95. Golightly, 293-5987.

BUNK BEDS, sturdy, dark wood, w/mattresses, $60. Layne, 857-0989.

TIRES & WHEELS, 14-in. & 15-in., $10-$25; BBQ grill, $15; sewing machine, $35; casement window, $10 OBO. Mozley, 299-4204.

JVC CD PLAYER, model XL-V200B; JVC fully automatic turntable, model QL-F4. Schmitt, 291-0878.

MONITOR, IBM color, CGA, see it work, $85. Dietzel, 294-4702.

BED SET, queen-size, mattress, box spring & frame, almost new, $100. Dreike, 299-6670.

COMPUTER, HP150, no disc storage, $50; 75-watt spotlight bulbs, 15, $1/ea.; two pneumatic presses, $75/ea. Norwood, 292-0072.

SWIVEL-BACK BAR STOOLS, five, neutral Olefin fabric, like new, $60/ea. or all for $250. Howard, 275-2337.

MICKEY MOUSE CRIB, w/mattress, Mickey Mouse bumper pad, & sheet, $75. Perry, 883-9579.

COMPUTER, Packard Bell 386 SX-11, VGA monitor, Panasonic KX-P1124 printer, desk, stand, extras, $1,000 firm. Owen, 299-3487.

EGA COLOR PC MONITOR, $50; left-hander's mitt; 10-gal. aquarium set-up; rubber riding boots, women's size 8. $10/ea. Baldo-Pulaski, 345-1288.

WEIGHT SET: barbell, dumb bells, stand, weights, exercise bench w/leg extension, new compact set-up for men/women, $95. Bickel, 883-6649.

COLOR TV, Sylvania, 25-in. console, good condition, $100. Prevender, 296-8586.

WARDS FREEZER, chest-type, 15 cu. ft., $100; Sears planer-joiner, 4-in., mounted on cabinet with wheels, $100. Both good condition. Carr, 281-1632.

DOUBLE BED, walnut, complete w/box spring, mattress, & headboard, $75. Murphy, 881-1520.

OSCILLATING PEDESTAL FAN, 16-in., 3-spd., like new, $20; Tiffany-style hanging lamp, 10' chain-cord & switch, $25. Hollister, 296-3655.

CAMPER SHELL, removed from '86 Toyota, good condition, $50 OBO. Simons, 296-0974.

WOODEN TRUNK, $50; Juki printer/typewriter, $50; Nintendo/Super Nintendo games, $5-$25/ea. Davis, 828-1465.

STRING TRIMMER, $10; dry erase board, 2' x 3', $20; cork bulletin board, 46" x 46", $15. Newcom, 293-5180.

GUN, Savage Model 99E .308, $225; Mossberg .22 mag. w/scope, $180; entertainment center, oak trim, 60" x 72", $80; sofa/sleeper, $80. Tweet, 275-9257.

EXERCISE BICYCLE, Lifestyler 575, dual-action ergometer, excellent condition, $110. Locher, 266-2021.

METAL STORM DOORS, w/interchangable screen & glass inserts, 36" x 72" ($75), 30" x 72" ($60). Wilson, 265-1613.

LA-Z-BOY RECLINERS, two, identical, almost new, $190/ea. or both for $360; Vitamaster exercise bike, $40; Frigidaire refrigerator, $75. Whitehurst, 299-9526.

EPSON COMPUTER, XT clone, includes monitor, printer, 20MB hard drive, & mouse, $200 OBO; electric lawnmower, $75. Henderson, 281-8271.

BALDWIN ORGASONIC ORGAN, $350; sectional sofa, rust color, $150; coffee table, $25; freezer, $125; hutch, $75; refrigerator, $150. All good condition. McCutcheon, 822-1101.

COMPUTER, Commodore 64, w/2 disk drives, printer, & assorted software, $100. Lukens, 299-1271.

POOL, 3' x 12' round, above-ground, w/filter & vacuum, new, still in box, purchase price $140; asking $100. Pantuso, 892-3641.

DINING TABLE & CHAIRS, Autumn Wood, natural oil finish, parson style, six chairs w/castors, $700 OBO. Oczon, 275-7147.

CAMPER HEATER, Olympian Catalytic Model 3100, $100; CSA Alpine tracker cross-country ski machine, $100. Eilers, 294-8582.

PARROT, blue front, Amazon, talking, healthy, has shots, likes people, needs good home, includes large cage, $595. Babcock, 299-3121.

TWO-BURNER ELECTRIC CARTRIDGE, Jenn-Aire, Model A100, for Jenn-Aire cook-top or range, $75. Matthewson, 883-6649 after 5 p.m.

WASHER & DRYER, coppertone, $30/ea.; sleeper couch, $35; chair, $5; oak coffee table, $20; concrete mixer, $150. Smith, 237-1017.

CENTURY PLANTS (agave), various sizes up to 1-ft. diameter, $5-$20. Bando, 292-2452.

STEEL BED FRAME, king-size, w/rollers, no tools required for assembly, new condition, $75. Stuart, 265-7315.

SOFA SLEEPER, swivel rocker, twin mattress & box spring, washer, dryer. Treml, 856-0662.

TABLE, large, 52-in. diameter, all wood, five-leg pedestal base, solid, ideal for family room or cabin, $150. Tarbell, 292-0141.

RETRIEVER/CHOW PUPPIES, black, 2 male, 2 female, born April 7, people oriented, have first shots, free to good homes. Aerts, 268-3529.

DRAWING BOARD, 24-1/2" x 20", Dietzgen T-square, small Leistner drafting set, ideal for student or beginning draftsman, $15. Freyermuth, 299-2053.

OAK FILING CABINET, two double-wide drawers, paid $190, asking $100 OBO. Burke, 294-7548.

WATERBED, king-size, w/waveless mattress, padded rails, heater, headboard has 4 compartments and supports a reading lamp, $175. Chapman, 296-4321.

DRESSER, five-drawer, in good condition, $80. Poulter, 291-0607.

IBM COMPUTER, 8088 CPU, 3-1/2-in. & 5-1/4-in. disk drives, monochrome monitor, w/graphics card, $150. Hammond, 294-2045.

WOODEN CABINET, 50" x 46" x 21", medium stain, for small TV and stereo or linens, pantry items, etc., $100. Plimpton, 275-7456.

NEIGHBORHOOD ASSOCIATION YARD SALE, June 5th, 8 a.m., I-40 east to Exit 178, then South frontage road east 1/2 mile. Rezac, 281-1816.

YARD SALE, May 29-30, 8 a.m.-5 p.m., 1403 La Mora Ln. SW, 1 block southeast of Rio Bravo/Isleta, clothes, furniture, lots of miscellaneous. Sanchez, 873-2058.

TRANSPORTATION

'89 CHEV. CAPRICE, 4-dr., AT, PS, PB, factory AC, cruise, high miles, but superb condition throughout, $4,500. Hesch, 256-0758.

BICYCLE, KHS Tri-Athlete, many custom components, $500. Petersen, 275-7467.

MOUNTAIN BIKE, Nishiki, 18" Control Stix, GS/DX components, gel seat, power grips, smoke lights, new DX brakes, new back wheel, $300 OBO. Zaffery, 266-3291.

'88 KAWASAKI NINJA 600R, 14K miles, $1,750. Archibeque, 881-8872.

'71 TOYOTA MOTORHOME, 24-ft., fully self-contained, AC, heater, CB & TV hook-ups & antenna, sleeps 2 adults/2 children, new batteries, $5,000. Smith, 344-8251.

'87 DODGE RAM CONVERSION VAN, purchased new in '88, all options plus many extras, one owner, $9,300. Stocks, 823-1541.

BICYCLES: BMX-type, 16-in., $35; Schwinn, 12-in., $25. Petersen, 857-9866.

'73 CHEV., 2-dr., runs well, needs little repair, must see, asking $500 OBO. Lake, 888-4581.

'85 NISSAN 300 ZX, T-tops, 5-spd., 70K miles, excellent condition, $5,600. Romero, 857-0466.

'68 BARRACUDA FASTBACK, good body, needs engine, $500. Prevender, 296-8586.

BICYCLES: Man's 10-spd., woman's 15-spd. Univega, $150/ea. Marder, 291-8140.

'83 TOYOTA CELICA GT, hatchback, electric sunroof, 5-spd., AC, PB, PS, good condition, runs well, $2,500. Gentry, 298-3574.

'78 TOYOTA TRUCK, w/camper shell, 122K miles, good condition, $1,000 OBO. Weed, 823-2396.

'84 CHEV. PICKUP, 1/2-ton, 4-spd., AC, AM/FM cassette, custom wheels, bed rails. Richards, 281-9471.

'86 FORD AEROSTAR XL, PS, PB, AC, cruise, 65K miles, AM/FM, tilt wheel, luggage rack, 1-yr.-old battery w/warranty, clean, $5,800 OBO. Chavez, 822-8910.

'78 VW DUNEBUGGY BODY KIT, plus engine & extra parts, $950 OBO. Johnson, 884-1728.

'79 MAZDA RX-7, 5-spd., 57K miles, full accessories, one owner, needs some work but runs well, below book. Hasenkamp, 255-8946.

BICYCLE, 24-in., girl's Schwinn, $50. Newcom, 293-5180.

'80 CHEV. BLAZER, V8, AT, AC, cruise, new 8,000-lb. winch, 83K miles, excellent condition, $4,500 OBO. Kuehne, 281-5446.

'93 TOYOTA CAMRY XLE, V6, loaded, almond/beige, power everything, sunroof, CD player, electronic security, service contract. Bishop, 299-8782.

CLASS A MOTOR HOME, less than 41K miles, clean, $7,200. Rebarchik, 299-1385.

'77 HARLEY SPORTSTER, 1,000cc, 18K miles, blue, w/stock & custom seats, super condition, runs great, $3,500. Graham, 821-4023.

'90 VW GTI, 33K miles, 5-spd., AC, PS, AM/FM cassette, sunroof, tint, nice tires, clean, $7,250. Georg, 291-0233.

'80 FORD BRONCO, 4WD, PS, PB, AC, 4-spd., AM/FM cassette, 85K original miles, $2,900. Habbit, 291-0293.

'91 FORD F-150 XLT PICKUP w/camper shell, power equipment, towing package, more, low miles, below book. Rowe, 299-0961.

REAL ESTATE

3-BDR. HOME, 2 baths, one-car garage, 1,510 sq. ft., fully landscaped, nice neighborhood, Juan Tabo/Indian School area, by owner, $94,000. Garcia, 293-2810.

LUXURY VIEW LOT, Rebonito, high on the east slope, $75,000, terms. Call or write for details, J.C. Lewing, Box 1731, Sun City, AZ; (602) 584-2291.

3-BDR. HOME, 2-1/2 baths, 2-story, 1,550 sq. ft., solar, sprinklers, 2-car garage, needs some fix-up, near Indian School/Chelwood, $102,000. Barnette, 292-5186.

3-BDR. HOME, 1-3/4 baths, 1,840 sq. ft., Manzano HS area, large family room, study, sprinklers, $81,000. Lesperance, 298-1268.

1-ACRE, approximately 7 miles south of I-40 off S-14, breathtaking views, heavily wooded, $8,500 cash or $10,000 REC. Myers, 299-4244.

2-BDR. TOWNHOME, 1-3/4 baths, greatroom w/fireplace, 1,082 sq. ft., landscaped yard w/covered patio, security wrought iron, near I-40 and Tramway, $84,500. Myers, 292-3672.

WANTED

"LEARN TO SPEAK FRENCH" TAPES, to borrow. Garcia, 294-8210.

USED PROPANE TANK, 250-gal. or larger. Douglas, 281-9843.

DONATIONS of food, clothing, household goods, and furniture, for church program to help needy families, will pick up. Parson, 291-8394.

"SWATCH" WATCHES, new or used, will pay cash. Altman, 254-0103.

WORK WANTED

LAWN MOWING JOBS, in NE Heights, reasonable rates. Ask for Ryan or Joel. Perrine, 293-1429.

Coronado Club Activities

Big Splash Coming at the Club Pool

WARM SUNSHINE and a refreshing dip in the pool — that lovely vision is about to become a summertime reality at the Club. The pool opens today, May 28, at 12:30 and stays open until 9 (buffet available 5-8 p.m.). Pool hours Saturday and Sunday are 11 a.m. to 5 p.m. Then comes the grand Memorial Day party, from 11 a.m. until 6 p.m. on Monday, May 31. Admission is free for all C-Club members and $3 for members' guests. There'll be a buffet from noon to 5, music by the Roland de Rose Dixieland Band from 3 to 6, and entertainment at various times in the afternoon by Pixie T. Clown and friends.

PLURAL SINGLES! — Summer's starting to look like fun for the singles group, with a Red River trip planned, and other diversions and excursions ranging from bowling to picnics to Friday night dinners. The next meeting is June 7 at 5 p.m., in the C-Club's Eldorado Room (officers will be elected). Interested singles are welcome to come see what the group's like; you don't have to be a C-Club member to participate. Oh, about that Red River trip: It's June 25-27, and the activities include rafting, hiking, and country-western dancing. Later in the summer, there'll be a trip to Elephant Butte. For more information, call the Sandia Employees Recreation Program on 844-8486.

CHAMPAGNE CALL — How about munching some brunch and then dancing to the music of the Best Shot Band? That's what folks will be doing June 6 at the Sunday Champagne Brunch and Tea Dance. Brunch is served from 10 a.m. to 2 p.m., and the dance is from 1 to 4 p.m. Reservations required for the brunch (no reservations accepted for the tea dance only) — call 265-6791.

POORBOYS NEXT WEEK — Next Friday, June 4, the Isleta Poorboys will be stepping up to the Club stage and playing your favorites from 7 to 11 p.m. Make it a fine evening by enjoying dinner (served from 6 to 9 p.m.) — your choice of New York sirloin strip, grilled halibut, or the fabulous buffet. Then dance to your heart's content! Call 265-6791 for reservations.

Motorcyclists: Summer Sun Can Hurt Your Head

Ed Baynes is a contract employee in Components and Structures Safety and Reliability Dept. 6449. Thanks to Ed for giving us some helpful "helmet hints."

Spring is here, and with the warm weather comes a parade of motorcycles into the parking lots. Sitting on top, tied to the sides, or stored in the saddle bags of many of these motorcycles are shining plastic bubbles, better known as helmets.

After more than 20 years of riding motorcycles and racing automobiles, I have learned a few things about helmets. First, helmets are made of fiberglass or a plastic outer shell with some type of foam inner liner. A lot of engineering goes into these materials so they will absorb an impact. But these materials harden after long periods in the sun, and a hardened helmet won't absorb an impact as well as a new helmet. Instead, it may transmit the impact to your head. So please, don't leave your helmet baking all day in the summer sun.

I know it might seem like a pain to carry your helmet into the office every day, but think of the advantages. You can carry your lunch in it, and your co-workers will be envious that you ride your motorcycle to work on those bright spring days. Besides, it's nothing compared to the headache you'll have if that sun-baked helmet ever hits the pavement.

Also, if you have a $10 head, buy a $10 helmet. Otherwise, buy a good one. A good helmet should be approved by the US Department of Transportation, and the better helmets are also approved by the Snell Foundation and/or the Safety Helmet Council of America. Look for a DOT, SNELL, or SHCA sticker on the inside of any helmet you buy.

Keep in mind that helmets age with time, and an old helmet may not absorb an impact as well as a new one. So plan to buy a new helmet every five or six years. And please, use your head, not your helmet, to keep you out of the hospital.

— Ed Baynes

Volunteers Needed

Here are several diverse volunteer opportunities currently available through the Sandia Volunteers in Action program. If you're interested in any of these activities, call Al Stotts in the Public Relations Department on 844-2282.

The **Chaco Collections Division of the National Park Service** at the University of New Mexico needs volunteers familiar with computer programming, statistics, research data entry, data formatting, and data analysis to work on a massive data entry project.

La Mesa Community Day Care and Preschool, a nonprofit, nonsectarian child-care center located in La Mesa Presbyterian Church, needs volunteers to work at a June 9 fundraiser dinner from 5:30 to 8 p.m. at the La Mesa Elementary School, 7500 Copper NE.

The day care program serves ethnically diverse children six weeks to six years old, mostly from single parent families. Many of the parents are continuing their education and others work at minimum wage jobs.

Volunteers for the fundraiser dinner are needed in ticket sales, finance/record keeping, publicity, donation solicitation, decorations, and entertainment. All proceeds from the event will go to the La Mesa preschool and elementary school.

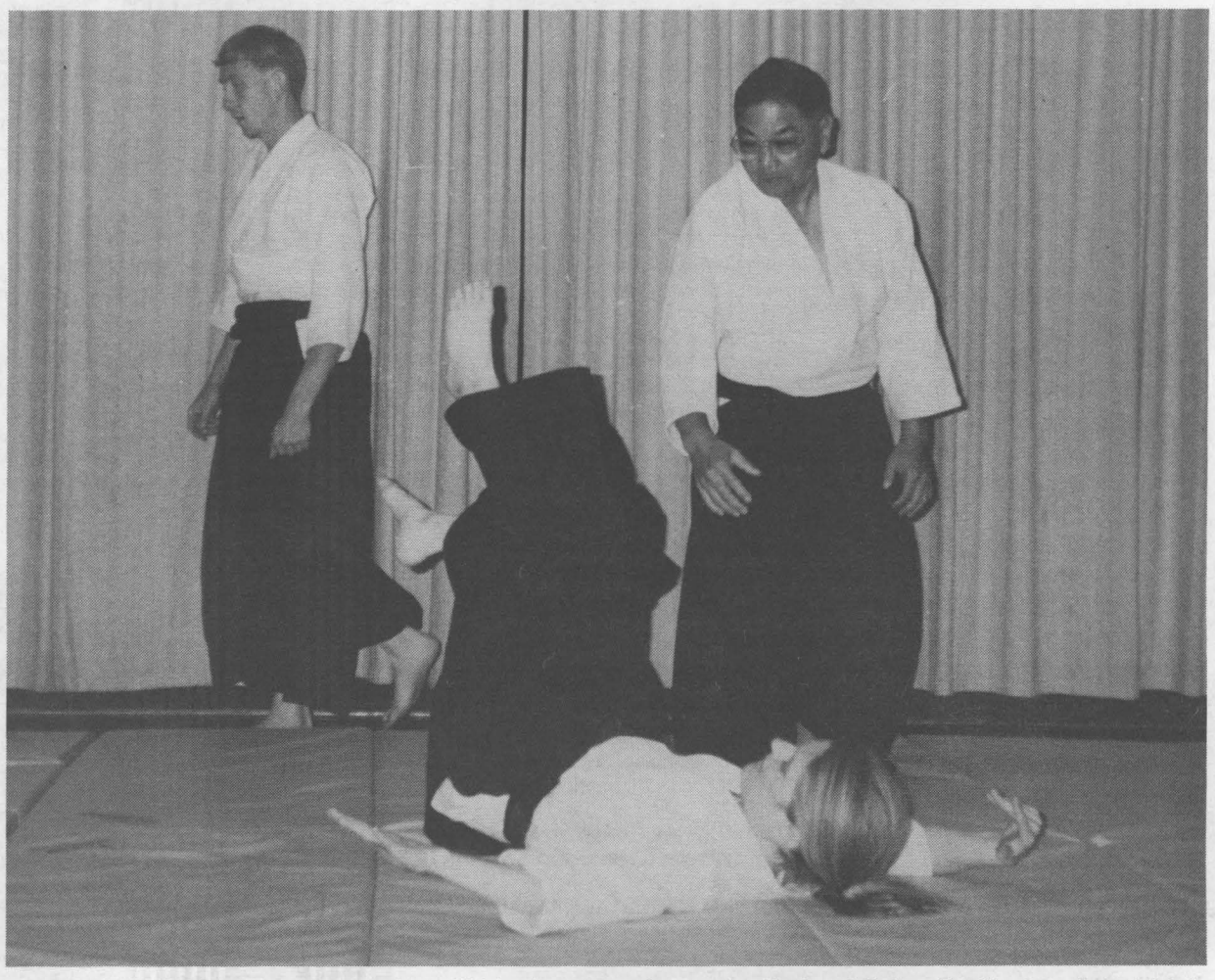
La Mesa also needs a volunteer accountant to serve on its board of directors as treasurer. The operating budget is currently more than $200,000. Much of the funding comes from the United Way of Greater Albuquerque and the City of Albuquerque. Accounting for the center is currently being done on an AT&T computer with the *Quicken* software package. La Mesa board meetings are conducted on the third Tuesday of each month.

Space '94, the fourth International Conference and Exposition on Engineering, Construction, and Operations in Space and the Conference and Exposition/Demonstration on Robotics for Challenging Environments, needs volunteers to help with administrative and technical aspects of the meeting to be held Feb. 26 to March 3, 1994, in Albuquerque.

The conference is co-sponsored by Sandia and has been held in Albuquerque twice previously. Space '94 needs volunteers in these areas:

• Administrative: obtaining and coordinating exhibits, press releases and publicity, poster session arrangements, obtaining and displaying space art, coordinating and organizing a space art and music event, and registration activities.

• Technical: submitting abstracts and papers for peer review, contacting potential speakers in particular technical areas, peer review of technical papers, serving as session chairs and coordinators, judging poster session entries for merit awards, helping students who write technical papers for student sessions, and helping prepare for a lunar base robotics competition. •



WADE ISHIMOTO (right, 7012) led an Aikido demonstration at the National Asian Pacific American Month Dinner and Festival, sponsored by Sandia's Asian Leadership Outreach Committee, at the Coronado Club on May 15. Entertainment included music by the Albuquerque Chinese Chorus, a Korean dancer, Japanese folk dancers, and a kendo (fencing with bamboo swords) demonstration. Speakers included past chair of the Asian Leadership Outreach Committee (ALOC), Pauline Ho (1126), and Heinz Schmitt, VP-2000. Randy Shibata (7212) was master of ceremonies. More than 300 employees attended with their families. The dinner included Japanese, Chinese, Korean, Indian, and American food. ALOC members who planned and conducted the event include Vincent Luk (9723), acting ALOC chair Gordon Smith (6606), Eden Tadios (1551), and Randy Shibata. (Photo by Joyce Luk)